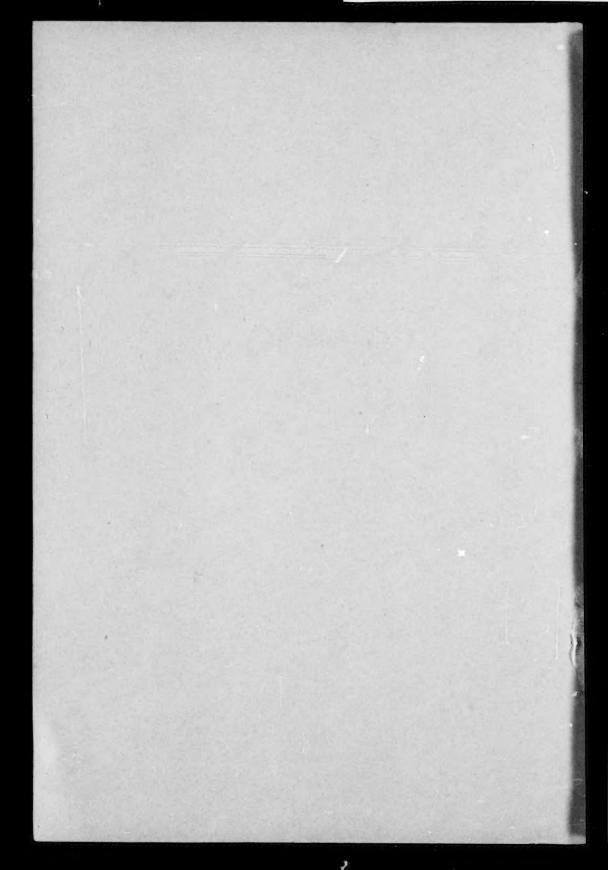
ANALYTICAL ABSTRACTS

PUBLISHED BY

The Society for Analytical Chemistry

INDEX TO VOLUME 5



ANALYTICAL ABSTRACTS

PUBLISHED BY

The Society for Analytical Chemistry

A MONTHLY JOURNAL DEALING WITH ALL BRANCHES OF ANALYTICAL CHEMISTRY

VOL. 5

PUBLISHED FOR THE SOCIETY BY

W. HEFFER & SONS, LTD.

4. PETTY CURY, CAMBRIDGE, ENGLAND



ANALYTICAL ABSTRACTS

EDITORIAL COMMITTEE

Chairman: R. C. CHIRNSIDE, F.R.I.C.

B. S. COOPER, B.Sc., F.Inst.P.

B. A. ELLIS, O.B.E., M.A., F.R.I.C.

C. H. R. GENTRY, B.Sc., F.R.I.C.

C. A. JOHNSON, B.Pharm., B.Sc., F.P.S., A.R.I.C.

I. MACINTYRE, M.B., Ch.B.

B. J. WALBY, B.Sc., A.R.I.C.

W. A. WAYGOOD, M.Sc., A.R.C.S., F.R.I.C.

AND THE PRESIDENT AND HONORARY OFFICERS

President of the Society

J. H. HAMENCE, M.Sc., Ph.D., F.R.I.C.

Hon. Secretary of the Society R. E. STUCKEY, Ph.D., D.Sc., F.R.I.C., F.P.S. A. J. AMOS, B.Sc., Ph.D., F.R.I.C.

Hon. Treasurer of the Society

Editor

NORMAN EVERS, B.Sc., Ph.D., F.R.I.C.

Assistant Editor Mrs. H. I. FISK, B.Sc.

The following list contains the names of journals from which papers have been abstracted regularly Journals that have been omitted are those that contain only an occasional analytical during the year. paper and a number of Russian journals from which translated abstracts have been published through the medium of Referation vi Zhurnal, Khimiya.

Acta Chemica Scandinavica.

Acta Chimica Academiae Scientiarum Hungaricae.

Acta Chimica Sinica.

Acta Endocrinologica [Copenhagen].

Acta Pharmaceutica Sinica.

Acta Pharmacologica et Toxicologica [København].

Acta Physiologica Scandinavica. Acta Poloniae Pharmaceutica.

American Dyestuff Reporter.

American Journal of Clinical Pathology.

Anais da Faculdade de Farmácia e Odontologia da Universidade de São Paulo.

Anales de la Asociación Química Argentina. Anales de Bromatologia [Madrid].

Anales de la Real Sociedad Española de Física y Química, Serie B [Madrid].

Analyst.

Analytica Chimica Acta.

Analytical Chemistry.

Angewandte Chemie.

Annalen der Chemie.

Annales des Falsifications et des Fraudes.

Annales Pharmaceutiques Françaises.

Annales Universitatis Mariae Curie-Skłodowska, Lublin-Polonia.

Annali di Chimica [Rome].
Annual Report of Takamine Laboratory.

Antibiotics and Chemotherapy.

Applied Spectroscopy.

Aptechnoe Delo.

Archiv für das Eisenhüttenwesen.

Archiv der Pharmazie und Berichte der deutschen pharmazeutischen Gesellschaft.

Archives of Biochemistry and Biophysics.

Arkiv för Kemi.

Arzneimittel-Forschung.

Atomnaya Energiya.

Australian Journal of Applied Science.

Berichte der deutschen keramischen Gesellschaft.

Biochemical Journal.

Biochimica et Biophysica Acta.

Biokhimiya.

Biuletyn Instytutu Roślin Leczniczych.

Bollettino Chimico Farmaceutico.

Bollettino della Società Italiana di Biologia Sperimentale.

Brauwissenschaft.

Brennstoff-Chemie.

British Journal of Applied Physics. British Medical Journal.

British Standards Institution. Standards.

Bulletin of the American Society for Testing Materials.

Bulletin du Centre Belge d'Étude et de Documentation des Eaux.

Bulletin of the Chemical Society of Japan.

Bulletin of the Institute of Nuclear Sciences "Boris Kidrich" [Belgrade].

Bulletin of the Institution of Mining and Metallurgy.

Bulletin of the Research Council of Israel.

Bulletin de la Société de Chimie Biologique.

Bulletin de la Société Chimique Belgrade.

Bulletin de la Société Chimique de France.

Bulletin de la Société de Pharmacie de Bordeaux.

Canadian Journal of Biochemistry and Physiology.

Canadian Journal of Chemistry.

Canadian Journal of Technology.

Cereal Chemistry

Československá Farmacie.

Chemia Analityczna [Warsaw], Chemical Age.

Chemical Products.

Chemické Listy. Chemické Zvesti. Chemický Průmysl. Chemie-Ingenieur-Technik. Chemie [Prague]. Chemiker-Zeitung. Chemisch Weekblad. Chemische Berichte. Chemische Technik [Berlin]. Chemist-Analyst. Chemistry & Industry. Chimia [Switzerland]. Chimie Analytique. Chimica e l'Industria [Milan]. Chimie et Industrie. Clinica Chimica Acta. Clinical Chemistry. Combustibles. Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences. Contributions. Boyce Thompson Institute for Plant Research.

Dansk Tidsskrift for Farmaci. Deutsche Apotheker-Zeitung. Deutsche Lebensmittel-Rundschau. Dissertation Abstracts. Drug Standards.

Erdől und Kohle. Ernährungsforschung. Experientia.

Croatica Chemica Acta.

Farbe und Lack. Farmácia. Faserforschung und Textiltechnik. Fette, Seifen, Anstrichmittel. Fuel [London].

Geochimica et Cosmochimica Acta. Geokhimiya. Gigiena i Sanitariya. Glas-Email-Keramo-Technik. Grasas y Aceites [Seville].

Helvetica Chimica Acta. Hoppe-Seyler's Zeitschrift für Physiologische Chemie. Hutnické Listy.

Indian Journal of Pharmacy.
Industrial Chemist and Chemical Manufacturer.
Industrie Chimique Belge.
Información de Química Analítica [Madrid].
Instituto del Hierro y del Acero.
International Journal of Applied Radiation and Isotopes.
International Sugar Journal.
Izvestiya Akademil Nauk Kazakhskol S.S.R., Seriya Khimicheskaya.

"J. Stefan" Institute Reports [Ljubljana]. Japan Analyst. Journal of the Agricultural Chemical Society of Japan. Journal of Agricultural and Food Chemistry. Journal of the American Chemical Society. Journal of the American Leather Chemists' Association. Journal of the American Oil Chemists' Society. Journal of the American Pharmaceutical Association, Scientific Edition. Journal of Applied Chemistry [London].
Journal of the Association of Official Agricultural Chemists. Journal of Biological Chemistry. Journal of Chemical Education. Journal of the Chemical Society of Japan, Industrial Chemistry Section. Journal of the Chemical Society of Japan, Pure Chemistry Section. Journal de Chimie Physique. Journal of Chromatography. Journal of Clinical Endocrinology and Metabolism.

The following list contains the names of journals from which papers have been abstracted regularly during the year. Journals that have been omitted are those that contain only an occasional analytical paper and a number of Russian journals from which translated abstracts have been published through the medium of Referationvi Zhurnal, Khimiya.

Acta Chemica Scandinavica.

Acta Chimica Academiae Scientiarum Hungaricae.

Acta Chimica Sinica.

Acta Endocrinologica [Copenhagen].

Acta Pharmaceutica Sinica.

Acta Pharmacologica et Toxicologica [København].

Acta Physiologica Scandinavica.

Acta Poloniae Pharmaceutica.

American Dyestuff Reporter.

American Journal of Clinical Pathology.

Anais da Faculdade de Farmácia e Odontologia da Universidade de São Paulo.

Anales de la Asociación Química Argentina.

Anales de Bromatologia [Madrid].

Anales de la Real Sociedad Española de Física y Química, Serie B [Madrid].

Analyst.

Analytica Chimica Acta.

Analytical Chemistry.

Angewandte Chemie.

Annalen der Chemie.

Annales des Falsifications et des Fraudes.

Annales Pharmaceutiques Françaises.

Annales Universitatis Mariae Curie-Skłodowska, Lublin-Polonia.

Annali di Chimica [Rome].
Annual Report of Takamine Laboratory.

Antibiotics and Chemotherapy.

Applied Spectroscopy.

Aptechnoe Delo.

Archiv für das Eisenhüttenwesen.

Archiv der Pharmazie und Berichte der deutschen pharmazeutischen Gesellschaft.

Archives of Biochemistry and Biophysics.

Arkiv för Kemi.

Arzneimittel-Forschung.

Atomnaya Energiya. Australian Journal of Applied Science.

Berichte der deutschen keramischen Gesellschaft.

Biochemical Journal.

Biochimica et Biophysica Acta.

Biokhimiya.

Biuletyn Instytutu Roślin Leczniczych.

Bollettino Chimico Farmaceutico.

Bollettino della Società Italiana di Biologia Sperimentale.

Brauwissenschaft.

Brennstoff-Chemie.

British Journal of Applied Physics.

British Medical Journal.

British Standards Institution. Standards.

Bulletin of the American Society for Testing Materials.

Bulletin du Centre Belge d'Étude et de Documentation des Eaux.

Bulletin of the Chemical Society of Japan.
Bulletin of the Institute of Nuclear Sciences "Boris Kidrich" [Belgrade].

Bulletin of the Institution of Mining and Metallurgy.

Bulletin of the Research Council of Israel.

Bulletin de la Société de Chimie Biologique.

Bulletin de la Société Chimique Belgrade.

Bulletin de la Société Chimique de France.

Bulletin de la Société de Pharmacie de Bordeaux.

Canadian Journal of Biochemistry and Physiology.

Canadian Journal of Chemistry.

Canadian Journal of Technology.

Cereal Chemistry

Československá Farmacie.

Chemia Analityczna [Warsaw].

Chemical Age.

Chemical Products.

Chemické Listy. Chemické Zvesti. Chemický Průmysl. Chemie-Ingenieur-Technik. Chemie [Prague]. Chemiker-Zeitung. Chemisch Weekblad. Chemische Berichte. Chemische Technik [Berlin]. Chemist-Analyst. Chemistry & Industry. Chimia [Switzerland]. Chimie Analytique. Chimica e l'Industria [Milan]. Chimie et Industrie. Clinica Chimica Acta. Clinical Chemistry. Combustibles. Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences. Contributions. Boyce Thompson Institute for Plant Research.

Dansk Tidsskrift for Farmaci. Deutsche Apotheker-Zeitung. Deutsche Lebensmittel-Rundschau. Dissertation Abstracts.

Erdöl und Kohle. Ernährungsforschung. Experientia.

Drug Standards.

Croatica Chemica Acta.

Farbe und Lack. Farmácia. Faserforschung und Textiltechnik. Fette, Seifen, Anstrichmittel. Fuel [London].

Geochimica et Cosmochimica Acta. Geokhimiya. Gigiena i Sanitariya. Glas-Email-Keramo-Technik. Grasas y Aceites [Seville].

Helvetica Chimica Acta. Hoppe-Seyler's Zeitschrift für Physiologische Chemie. Hutnické Listy.

Indian Journal of Pharmacy, Industrial Chemist and Chemical Manufacturer. Industrie Chimique Belge. Información de Química Analitica [Madrid]. Instituto del Hierro y del Acero. International Journal of Applied Radiation and Isotopes. International Sugar Journal. Izvestiya Akademil Nauk Kazakhskol S.S.R., Seriya Khimicheskaya.

"J. Stefan" Institute Reports [Ljubljana].
Japan Analyst.
Journal of the Agricultural Chemical Society of Japan.
Journal of Agricultural and Food Chemistry.
Journal of the American Chemical Society.
Journal of the American Leather Chemists' Association.
Journal of the American Oil Chemists' Society.
Journal of the American Pharmaceutical Association, Scientific Edition.
Journal of Applied Chemistry [London].
Journal of the Association of Official Agricultural Chemists.
Journal of Biological Chemistry.
Journal of Chemical Education.
Journal of the Chemical Society of Japan, Industrial Chemistry Section.
Journal of the Chemical Society of Japan, Pure Chemistry Section.
Journal of Chromatography.
Journal of Chromatography.
Journal of Clinical Endocrinology and Metabolism.

Journal of Clinical Pathology.

Journal of Dairy Research. Journal of Dairy Science.

Journal of the Electrochemical Society of Japan.

Journal of the Indian Chemical Society

Journal of Inorganic & Nuclear Chemistry.

Journal of the Institute of Brewing. Journal of the Institute of Fuel.

Journal of the Institute of Petroleum.

Journal of the Iron and Steel Institute.

Journal of Laboratory and Clinical Medicine.

Journal of the Oil and Colour Chemists' Association.

Journal and Proceedings of the Oil Technologists' Association, India, Kanpur.

Journal of the Optical Society of America.

Journal of Organic Chemistry.

Journal of the Pharmaceutical Society of Japan.

Journal of Pharmacy and Pharmacology.

Journal of the Polarographic Society.

Journal of Polymer Science.

Journal für praktische Chemie.

Journal and Proceedings of the Institution of Chemists [India].

Journal of Research and Development. British Cast Iron Research Association.

Journal of Research of the National Bureau of Standards.

Journal of the Science of Food and Agriculture.

Journal of Scientific and Industrial Research [India]. Sections B and C.

Journal of Scientific Instruments.

Journal of the Society of Glass Technology.

Journal of the Society of Leather Trades' Chemists.

Kemija u Industriji [Zagreb].

Khimiya Redkikh Elementov, Akademiya Nauk S.S.S.R., Institut Obschel i Neorganischeskol Khimii. Klinische Wochenschrift.

Laboratornoe Delo.

Laboratory Practice.

Lancet.

Magyar Kémiai Folyóirat.

Magyar Kémikusok Lapja.

Meddelelser fra Norsk Farmaceutisk Selskap.

Metallurgia [Manchester].

Microchemical Journal.

Mikrochimica Acta.

Mitteilungen des Chemischen Forschungsinstitutes der Wirtschaft Österreichs.

Mitteilungen aus dem Gebiete der Lebensmitteluntersuchung und Hygiene [Bern].

Nature [London].

Naturwissenschaften.

New Zealand Journal of Science and Technology. B. General Research Section.

Nucleonics.

Olii Minerali, Grassi e Saponi, Colori e Vernici.

Optika i Spektroskopiya.

Österreichische Chemiker-Zeitung.

Paintindia.

Paint Incorporating Paint Manufacture.

Paliva.

Parfums, Cosmétiques, Savons.

Peintures-Pigments-Vernis.

Perfumery and Essential Oil Record.

Periodica Polytechnica.

Pharmaceutica Acta Helvetiae.

Pharmaceutisch Weekblad.

Pharmazeutische Zentralhalle für Deutschland.

Pharmazie.

Photoelectric Spectrometry Group Bulletin.

Plaste und Kautschuk.

Plating.

Pochvovedenie.

Pracovní Lékařství.

Proceedings of the Indian Academy of Sciences.

Proceedings of the Society for Experimental Biology and Medicine.

Průmysl Potravin.

Receuil des Travaux Chimiques des Pays-Bas.
Review of Scientific Instruments.
Revista de la Asociación Bioquímica Argentina.
Revista de Chimie [Bucharest].
Revista de Ciencia Aplicada [Madrid].
Revista Española de Fisiología.
Revista de Química Industrial [Rio de Janiero].
Revue de Chimie, Académie de la République Populaire Roumaine.
Ricerca Scientifica.
Roczniki Chemii.
Rudy.

Scandinavian Journal of Clinical & Laboratory Investigation.
Science.
Science and Culture [Calcutta].
Science Reports of the Research Institutes, Tóhoku University.
Scientia Pharmaceutica.
Sewage and Industrial Wastes.
Soap and Chemical Specialties.
Soap, Perfumery and Cosmetics.
Soil Science.
South African Industrial Chemist.
Spectrochimica Acta.
Stärke.
Stürke.
Studii şi Cercetări de Chimie [Cluj].
Studii şi Cercetări Ştiințifice Chimie [Iaşi].
Suomen Kemistilehti.
Svensk Papperstidning.

TAPPI

Technology Reports of the Tohoku University.
Transactions of the British Ceramic Society.
Trudy Radievogo Instituta imeni V. G. Khlopina, Akademiya Nauk S.S.S.R.
Trudy Ural'skogo Politekhnicheskogo Instituta imeni S. M. Kirova.

Ukrainskii Khimicheskii Zhurnal. United Kingdom Atomic Energy Research Establishment Reports. United Nations Secretariat Publications. United States Atomic Energy Commission. Reports.

Verfkroniek. Vestnik Leningradskogo Universiteta. Vestnik Moskovskogo Universiteta. Vitamins [Kyoto]. Voda.

Yakuzaigaku.

Zavodskaya Laboratoriya.
Zeitschrift für analytische Chemie.
Zeitschrift für Lebensmittel-Untersuchung und -Forschung.
Zeitschrift für Naturforschung.
Zeitschrift für Tierernährung und Futtermittelkunde.
Zhurnal Analiticheskol Khimii.
Zhurnal Neorganischeskol Khimii.
Zhurnal Obshchel Khimii.
Zhurnal Prikladnol Khimii.

ACKNOWLEDGEMENTS

The organisations publishing the following journals are thanked for allowing reproduction of some abstracts.

British Baking Industries Research Association Abstracts.
British Cotton Industry Research Association. Summary of Current Literature.
Bulletin of the British Non-Ferrous Metals Research Association.
Chemical Abstracts.
Nuclear Science Abstracts.
Nutrition Abstracts and Reviews.
Physics Abstracts.
Referativnÿi Zhurnal, Khimiya.
Sugar Industry Abstracts.
Water Pollution Abstracts.

ERRATA

VOL. 2, 1955. Abstract No. 1.17 2 for D. Rubstein read D. D. Rutstein. Vol. 4, 1957. Abstract No. Line 1404 3 for Mukherjee read Mukerjee. Vol. 5, 1958. Abstract No. Line 15 30 for Lani read Landi. 2 for M. D. Elliott read M. C. Elliott. 88 96 3 for Nederost read Nedorost. 3 for 1957, **146** (3), 805 read 1957, **146**, 118–121. 3 for Khalafallah read Khalafalla. 154 344 400 4 for Nobuhiro Iritani read Nobuko Iritani. 428 5 for 1957 sead 1956. 439 4 for Belyabskaya read Belyavskaya. 3 for R. Pletikha and V. Shtefan read R. Pleticha and V. Štefan. 565 I for M. R. Babin read R. Babin. 699 4 for Antinova read Antipova. 714 2 for Prozst read Proszt. 762 907 13 for 240° read 340°. 1032 I for Anon. read Beckman Instruments Inc. 1 for Anon. read J.R.M. 2 for Karsai read Karsay 1083 1128 8 for Van der Graaff read Van de Graaf. 1152 1435 78 for A. Camuñas read A. Camuñas Puig. 1435 78 for H. Carrancio read H. Carrancio de la Plaza. 4 for 31 pp. read 33-64. 3 for N. T. Chuïko read V. T. Chuïko. 1436 1454 3 for 32 pp. read 1-32. 3 for E. F. Starik read F. E. Starik. 2 for A. V. Striganov read A. R. Striganov. 1495 1501 1505 1529 5 for Pa read Pd. 2 insert DIN 51,576 after content. 1571 2 for J. K. Lee read James K. Lee. 1574 2 for manganese read magnesium. 1859 1883 2 for R. Sargent read R. N. Sargent. 1975 4 for Senoo read Seno. 2113 3 for Schenkel read Schinkel. 3 for J. K. Lee read Jung K. Lee. 2 for R. Sargent read R. N. Sargent. 2173 2246 2309 2 for Anon. read United Kingdom Atomic Energy Authority. 2335 2 for Reuter read Reuther. 2 for Poper read Popper. 2548 2714 18 for protocatechaldehyde read protocatechualdehyde.
2 for J. H. Porter read J. T. Porter. 2937 3148 2 for Anon. read National Bureau of Standards. 3295 2 for E. Garate and T. Garate read M. E. Garate and M. T. Garate. 3323 6 for dimethylarsonic read dimethylarsinic. 3373 2 for R. Wolfgang read R. L. Wolfgang. 9 for 1957 read 1958. 3810 3881 22 delete (2 ml) after methanol. 2 for J. K. Lee read James K. Lee. 3994 4163 - Vertalier and - Martin read S. Vertalier and F. Martin. 2 for R. Sargent read R. N. Sargent. 4171 3 for quinine read cinchona. 4275

ANALYTICAL ABSTRACTS

PUBLISHED BY

The Society for Analytical Chemistry

INDEX TO VOLUME 5



INDEX OF AUTHORS

Aaland, A. E. See Dunbar, R. E., 3382.

Aalto, E. See Pohja, M. S., 4309. Aarts, E. M. See Mulder, G. J., 838. Aasness, H. Purity tests using flame photometry. Sodium and potassium as contaminants in calcium salts, 44.

Abaffy, F., and Kveder, S. Paper-chromatographic separation of methadone hydrochloride, ephedrine hydrochloride and hyoscine hydrobromide, 1966.

— See also Wesley-Hadžiha, B., 3404.

Abbitt, W. H. Device for the safe interchange of the lens and prism mounts of a Bausch and Lomb

Littrow spectrograph, 1737.

Abbott, D. D. See Harrisson, J. W. E., 975.

A.B.C.M. See Association of British Chemical Manufacturers.

Abdel-Wahhab, S. M. See Flaschenträger, B., 1401. Abidova, Z. Kh., Yakubov, A. M., Usmanov, Kh. U., and Khodzhaev, G. Kh. Separation and determination of aromatic acids by paper chromatography, 4202.

Ablov, A. V., and Batyr, D. G. Determination of reducing sugars by means of copper trihydroxy-

glutarate, 3149.

Abou-Elnaga, M. A. See Elbeih, I. I. M., 2076. Abraham, B. M., Flotlow, H. E., and Carlson, R. D.

Particle-size determination by radioactivation, 4. Abraham, M. H., Davies, A. G., Llewellyn, D. R., and Thain, E. M. Chromatographic analysis of organic peroxides, 2676.

Abramov, M. K., and Teodorovich, I. L. Amperometric titration of ammonium sulphate in medicinal sera, 1356.

Abramovitch, R. A. Infra-red spectra of malonate esters, 3384.

Abresch, K., and Dobner, W. Flame spectrometry in determination of calcium and magnesium in a steel-plant laboratory, 3277.

Abul-Fadl, M. A. M. Determination of β-glucuronidase activity in urine, 3101.

Achhammer, B. G. See Stromberg, R. R., 3812. Acker, L., and Diemair, W. Determination of egg content of egg - dough products, 983.

Adam, H. M., Hardwick, D. C., and Spencer, K. E. V. Estimation of histamine in plasma, 3848.

Adams, B. B. See Beckman, H. F., 3934.

Adams, D. D., and Purves, H. D. Thyrotrophin assay by plasma ¹³I measurements, 2733.

Adams, E. C. See Free, A. H., 623.

Adams, E. C. See Free, A. H., 623.

Adams, F., and Rouse, R. D. Use of an anionexchange resin to eliminate anion interference in calcium determinations by flame photometry,

Adams, R. N., McClure, J. H., and Morris, J. B. Chronopotentiometric studies at solid electrodes, 2856.

and Voorhies, J. D. Voltammetry at con-lled current. Automatic recording at solid trolled current. electrodes, 1417.

See also Lee, Jung K., 2173, and Voorhies, J. D., 2767.

Adams, S. L. See Manna, L., 1456.

Adelson, E., and Roeder, W. H. Studies on fibrinolysin using a clinically practical method of

quantitative determination, 3455.

Adler, I. See Axelrod, J. M., 786.

Aepli, O. T. See Beyer, K. W., 1490.

Afanas'ev, B. N. Chloraminometry—a method of organic analysis, 3762.

and Kruzhevnikova, A. I. Colorimetric determination of certain aromatic amines and their derivatives, 690.

Afanas'eva, T. P. See Zaitseva, G. N., 3086.

Agasyan, P. K. [Report of the Conference on Methods of Analysis of Rare and Non-Ferrous Metals.] Potentiometric determination of lead and barium ions when both are present, 1442.

Agazzi, E. J. See White, T. T., 2660.

Aggarwal, J. S. See Phatak, K. D., 265, and Nanavati, D. D., 3531.

Agrawal, K. C. See Verma, M. R., 1268.

Agrinier, H. Applications of partition chromato-

graphy to the determination of certain elements in minerals. I. Determination of lithium, boron and beryllium, 358; II. Detection and semiquantitative estimation of silver, nickel, cobalt, copper, niobium, tantalum and titanium, 1775.

Agterdenbos, J. Consideration of the blank value in colorimetric determinations, 1437. Indirect photometric micro-determination of barium by

precipitation as chromate, 2907.

Ahmad, M. See Wahhab, A., 1392.

Ahrendt, M. E. See Mehler, A. H., 1739.

Aldarkin, B. S., Gorshkov, G. V., Grammakov, A. G.,

Zhadin, V. S., and Kolchina, A. G. Determination of beryllium in ores by means of photoneutrons,

Aldarov, T. K. Spectrographic determination of lithium in copper, 1448.

— See also Gorovaya, B. S., 1460.

Aidinyan, R. Kh. Determination of total sulphur in soils, minerals, plants and organic compounds, 3930.

Aihara, T., Machida, H., and Yoneda, Y. Determination of chloramphenicol. I. Colorimetric determination with hydroxylamine hydrochloride and ferric chloride, 3121.

- and Sato, Kazuo. Determination of chloram-phenicol. II. Determination by paper electro-phoresis, 3121.

Aikman, A. R. [Proceedings of the National Conference on Instrumental Methods of Analysis. Chicago, 1957.] Use of analysis instrumentation in process control, 1725.

Aird, R. B. See Alberts, W. W., 3426.

Aisenberg, L. N. Qualitative reaction of 5-hydroxy-1:4-naphthaquinone [juglone], and its use in colorimetric analysis, 3924. Aivazov, B. V. See Obolentsev, R. D., 587.

Akabori, S. See Kuratomi, K., 2742.
Akagi, M., and Tejima, S. Spectrophotometric determination of a micro amount of p-ethoxyphenylurea [dulcin], 3163.

Akaza, I. See Kiba, T., 1874, 2964.

Akazome, G. See Takei, F., 3022.

Akimov, A. I. A calculated calibration curve in

the spectrographic analysis of the rare-earth elements by the method of additions, 3658.

Akiya, S., Nakazawa, Y., and Ishikura, S. Detection of narcotics of the dialkylaminodithienylbutene

series, 3142.
- and **Tomoda, M.** Paper chromatography of methylated D-glucosamine, D-galactose and Dmannose, 3017.

Akiyoshi, S. See Kobayashi, A. 1269. Aksel'rud, N. V., and Spivakovskii, V. B. graphic method of determining indium, 410.

Aksenova, A. V. See Moiseeva, K. A., 2582. Albersmeyer, W., and Krampitz, G. Multiple colour reactions for aromatic hydrocarbons, 2690.

Alberts, W. W., Brochmann-Hanssen, E., Aird, R. B., and Winston, S. Polarographic determination of oxygen tension in samples of human cerebrospinal fluid, 3426.

Alcaraz, O. See Philippe, J., 3123.

Alcides Ohlweiler, O., and Oliveira Meditsch, J. Indirect absorptiometric determination cyanide, 2565.

Alcock, K. See McKay, H. A. C., 3263.

Alderin, B. See Carlson, O. T., 163.

Aleksandrov, S. N., and Alekseev, S. A. Determination of sulphate in aluminium oxide by amperometric titration, 1496.

Aleksandrova, E. I. Co-precipitation with manganese dioxide of chromium, aluminium and iron when present together in solution, 480.

Alekseeva, I. P. See Aleksandrov, S. N., 1496.
Alekseeva, I. P. See Efremov, G. V., 4029.
Alekseeva, N. N. See Peshkova, V. M., 3713.
Alekseeva, V. M., and Rusanov, A. K. Spectro-

graphic determination of beryllium in ores and minerals, 380.

Alexa, J. Determination of uranium by manganometric determination of uranium peroxide, 2980. Alexander, N. M. Spectrophotometric assay for sulphydryl [thiol] groups using N-ethylmaleimide,

Alexander, R. L., jun. See Hellmann, M., 4199.

Alford, D. O. See Menefee, A., 1877.

Alicino, J. F. Determination of sulphur in organic compounds, 3364.

Aliev, A. M. Quantitative determination of acetarsol by the method of back-titration, 3145. Aliferio, I. See Newkirk, A. E., 3246.

Alikberov, S. S. See Alimarin, I. P., 67. Alimarin, I. P. Radiometric titrations, 1099. Radiochemical methods of analysis in the USSR,

and Alikberov, S. S. Benzenesulphinic acid for

determination of zirconium, 67.

Belyavskaya, T. A., and Bazhanova, L. A. Separation of titanium from accompanying elements by ion-exchange chromatography. Separation of titanium and chromium, 439.

and Gibalo, I. M. Extraction of the 8-hydroxyquinolinates of niobium, tantalum and tungsten, 3695.

Gibalo, I. M., and Sirotina, I. A. Radiometric titration of the rare elements. Determination of beryllium, zirconium and thallium, 1787.

Golovina, A. P., and Gibalo, I. M. Absorption spectra of the complexones of certain metals, 2509.

and Kozel', L. Z. Quantitative determination of zirconium with phytin, 3671.

and Medvedeva, A. M. Quantitative separation of titanium from molybdenum and vanadium by ion-exchange chromatography, 2577.

and Petrikova, M. N. Ultra-micro analysis, 3239. and Rudney, N. A. [Reviews of Russian analytical chemistry.] Use of radioactive isotopes in

analytical chemistry, 1082.

and Sotnikov, V. S. Organic derivatives of sulphurous, selenous and tellurous acids in analytical chemistry, 2075.

and Zolotov, Yu. A. Extraction of uranyl 1-nitroso-2-naphthoxide and the separation of uranyl from translation of the separation of translations. uranium from vanadium and iron, 492.

See also Bilimovich, G. N., 2862, Golovina, A. P., 2139, Petrikova, M. N., 1418, and Sirotina, I. A., 416.

Alimova, E. K., and Bolgova, G. D. Separation and identification of higher fatty acids by means of paper chromatography, 2238.

Alkemade, C. T. J., and Jeuken, M. E. J. Effect of aluminium on the emission of calcium in the flame, 2538.

Allemand, J. See Castro, R., 2995. Allen, F. W. See Crestfield, A. M., 2824.

Allen, J., and Geddes, E. T. Non-aqueous titration of phenolic compounds, 2691. Allen, R. J., and DeSesa, M. A. Analyses for tri-n-

butyl phosphate, 2259.

Allen, T. L. Micro-determination of chromium with 1:5-diphenylcarbohydrazide [sym.-diphenylcarbazide], 2608.

Aller, H. C. van. See Detmar, D. A., 406.
Alliot, M. R. Matweef's method for the detection of flour from hard wheats in semolinas and flour products, 260.

Allsopp, H. J. Determination of excess of zinc in zinc oxide, 46.

Almássy, G. Detection of uranium^{VI} by salicylaldoxime, 4091.

and Dezső. I. Micro-detection and colorimetric micro-determination of oxalate ions by an activated reaction, 1258. Standard solutions of methyl orange in micro-analysis: helianthometry. Volumetric micro-determination of ferrous iron and hydrogen peroxide, 2208.

and Vigvári, M. Separation of uranium VI by paper chromatography, 1186.

— See also Nagy, Z., 3562.

Almásy, A. See Ferenczy, Z., 1457.

Althouse, P. M. See Smith, E. C., 1629.

Altschul, A. M. See King, W. H., 2425.

Alvarez-Arenas, E. A. See Asensi alvarez-Arenas, E.

Amakasu, O. See Ito, Akira, 3126.

Amako, T., and Onoue, K. Dissolution of metallic zirconium in sulphuric acid and ammonium sulphate, 2950.

Amano, K. See Yasuda, K., 375. Amaral, J. R. See Feigl, F., 3772, 4159. American Association of Textile Chemists and Colorists. Assay of sodium hydrosulphite [dithionite], 1498.

American Petroleum Institute. Determination of oil in refinery effluent waters, 2017.

Amis, E. S. See Blair, J. W., 2675.

Amitina, N. I. See Rozina, A. M., 3805.

Ammon, R., and Henning, U. Occurrence of p-hydroxyphenylpyruvic and other keto acids in the urine of healthy and cirrhotic rabbits, 3447.

Amo, C. G. del. See Garcia del Amo, C. Amoore, J. E., Parsons, D. S., and Werkheiser, W. C. Lithium internal-standard flame photometer, 3951

Amormino, V. See Bucci, F., 1372. Anand, V. D. See Malhotra, O. P., 1882, 3380, 3780. Andersch, M. A. Titration method for the determination of calcium in serum using a new indicator, 605.

Anderson, D. R., Williams, C. M., Krise, G. M., and Dowben, R. M. Determination of creatine in

biological fluids, 1608.

Anderson, J. R. A., Lock, L. C., and Martin, E. C. Separation of food dyes by two-dimensional chromatography and electrophoresis on paper,

and Garnett, J. L. Naphthalene derivatives in inorganic analysis. III. Nitroaminonaphthalene monosulphonic acids as spot tests for stannous tin, 2568

Anderson, N. G. Method for observing refractive index gradients in liquids, 663.

Andersson, L. H. Determination of silica. I. Spectrophotometric determination of silica as α-molybdosilicate, 3662. Andersson, O. See Bladh, E., 3366.

Andreae. W. A. Estimation of maleic hydrazide by paper chromatography, 3388.

Andreasen, E. Determination of magnesium in serum and urine by the Titan yellow method,

Andreeva, M. A. See Teodorovich, I. L., 371. Andreeva, O. S., and Kovalev, E. E. Determination of radium aerosols in the presence of other α-active aerosols, 2543.

Andreoli, E. M. See Tappi, G., 4285.
Andrew, M. L. See Weiss, P. J., 963.
Andrews, A. C., and Lyons, T. D. Quantitative determination of histamine in presence of certain interfering metal ions, 942.

Anglin, C., and Mahon, J. H. Modified procedure for determining maleic hydrazide residues in plant material, 3927.

Annino, R. See Arthur, P., 1538. Antipova, N. P. See Shatenshtein, A. I., 353, 714. Antipova-Karataeva, I. I. See Peshkova, V. M., 1082.

Antonacopoulos, N. See Möhler, K., 3152.

Antonescu, E. See Pirtea, T. I., 1866.

Antoszewski, R. Micro-extractor for biochemical and chromatographic purposes, 3945.

Aoki, F., Kurosawa, T., and Yajima, S. Analysis of gamma-emitters using a gamma-ray scintillation spectrometer. I. Quantitative analysis of 134Cs - 137Cs mixtures, 2112.

Aoki, I. See Kudo, I., 3378. Aoki, S. See Sakaue, T., 593.

Apollonova, A. N. See Starik, I. E., 3721.

Arakawa, H. See Tanaka, S., 575. Araki, S., and Yamaguchi, N. Mass spectrometry of some halogen compounds, 3375.

Aranda, V. G. See Gómez Aranda, V. Archibald, R. M. Colorimetric measurement of uric acid, 186.

Arcus, A. C. Glass pens for Beckman Model DK-2 spectrophotometer, 2054.

Arden, T. V., and Harbutt, J. Separation of uranium [uranyl] from other metals in sulphate solution by fractional hydrolysis. I. Hydrolysis in sulphate solution, 4099.

Humphries, R., and Lewis, J. A. Separation of uranium [uranyl] from other metals in sulphate solution by fractional hydrolysis. II. cipitation in the presence of phosphate, arsenate and silicate, 4099.

Arendt, I., and Schenck, H .- J. Paper chromatography in the analysis of polyesters, 4222.

Arene, M. See Guntz, A. A., 306, 3729. Arison, B. H., Speth, O. C., and Trenner, N. R. Mass isotope dilution assay for gibberellic acid, 4335.

Ariton, N. See Popper, E., 1478, 1792.

Arizan, S. See Sterescu, M., 708.
Armbruster, O., and Beiss, U. Paper chromatography of phosphatides, 2334.

See also Beiss, U., 4249.

Armeanu, V., and Bardan, D. Semi-micro gravimetric method for the determination of copper,

Armfield, W. Determination of viscose rayon and cotton in blend yarns and fabrics using sodium zincate solution, 3057.

Armson, F. J., and Bennett, H. L. Effect of nitrides in silicon iron on the determination of oxygen by chlorination, and the possible direct determination of aluminium nitride, 4120.

Armstrong, T. V. See Sato, I., 697. Armstrong, W. H. See Nunez, L. J., 150. Arnautov, N. V. Spectrographic determination of germanium in coal ash, 1803.

Arnold, Z. See Knobloch, E., 2294.

Aronovitch, J., and Grossowicz, N. Determination of vitamin B12 with Escherichia coli mutant, 3535. Aronson, J. N., and Elvehjen, C. A. Hydroxyproline content of animal tissue, 201.

Arret, B., Woodard, M. R., Wintermere, D. M., and Kirshbaum, A. Antibiotic interference thresholds

of microbiological assays, 2373.

Arthur, P., Annino, R., and Donahoo, W. P. Determination of carbon, hydrogen and nitrogen in organoboron compounds, 1538.

and Donahoo, W. P. Micro-determination of boron in organoboron compounds, 1555.

Articolo, O. J. See Marley, J. L., 1157.
 Arvia, A. J., and Brodersen, P. H. Conductimetric titrations at high frequency with a balanced

circuit, 2468.

Asahi, Y. Polarographic studies of pharmaceuticals. IX. Polarography of camphor derivatives. (v). The relationship between the reduction potential and chemical structure, and analytical applications, 3125.

Asahina, H., and Ono, M. Unified analysis of opium by paper chromatography and spectrophotometry, 1666. Quantitative determination of codeine and dihydrocodeine in antitussive and expectorant drugs by paper chromatography, 1962. Detection of

Shiuchi, Y., and Nakamura, Yoshi.

emetine in Dover's powder, 2364.

Aschaffenburg, R. Progress of dairy science.
Section C. Dairy chemistry. I. General and physical chemistry, 3516.

Asensi, G. See Sierra, F., 3244. Asensi Alvarez-Arenas, E. See Sampedro Pieñiro, A., 2221.

Asensi Mora, G. Potentiometric determination of halides with a glass electrode by sensitisation with sodium thiosulphate, 3336.

Ashby, R. O., and Roberts, M. Micro-determination of calcium in blood serum, 602.

Ashgar, A. G., Qayyum, M. A., and Rana, G. M. Volumetric determination of sulphates in soil and irrigation water, 1715.

Ashratova, Sh. K. Determination of fluoride ion in

cryolite by means of ion-exchange chromato-

graphy, 1204.

Ashwell, G., and Hickman, J. Enzymic formation of xylulose 5-phosphate from ribose 5-phosphate in spleen. [Determination of ribulose and xylulose 5-phosphates.], 194.

Aslanov, G. A. See Shakhtakhtinskii, G. B., 1789. Aspinall, G. O., and Ferrier, R. J. Spectrophotometric method for the determination of periodate consumed during the oxidation of carbohydrates,

Asselineau, J. Chromatography in the field of organic acids, 2680.

Association of British Chemical Manufacturers -Society for Analytical Chemistry. Recommended methods for the analysis of trade effluents. Methods for the determination of phenols and sulphide, 281; Determination of oxygen demand, 2014; Determination of antimony, barium soluble in dilute hydrochloric acid and cadmium, 2015; Determination of synthetic detergents, 2419; Determination of phosphorus and acid-soluble sulphate, 2420; Determination of residual chlorine, cvanides and thiocvanate, fluoride, formaldehyde, and sulphite and thiosulphate, 3186. Astrachan, L. See Jacobson, J. B., 947.

Asunción-Omarrementería, M. C. See Burriel-Marti, F., 2884.

Atanasiu, I., Popescu, M., and Calusaru, A. Determination of nickel in the presence of large amounts of copper, 4139.

Atanasov, B. See Genchev, M., 1561.

Atlanasov, B. See Genchev, M., 1961.
Athanail, G., and Cabaud, P. G. Colorimetric method for true blood glucose, 3830.
Athavale, V. T. See Belekar, G. K., 1494.
Athawale, V. D. See Prakash, O., 2787.
Atkin, M. See Miles, M. J., 2535.
Atkins, W. R. G. Direct determination of ammonia

in sea water, with notes on nitrate, copper, zinc and sugars, 3920.

Atkinson, L. F. See Horowitz, R. M., 1057.
Atrashenok, L. Ya., Voloshenko, L. L., and Krylov,
A. Ya. Luminescence method of determining uranium without removal of extinguishing substances, 1502.

— See also Starik, I. E., 2621. Atroshenko, M. P., and Kozyreva, M. S. Determination of silicon and phosphorus in titanium dioxide by spectrographic analysis, 2581.

Aubert, H. See Pinta, M., 2022.

Audran, R., and Reutenauer, G. Chromatographic apparatus allowing concentration of constituents, 1038.

Auer, H. See Fischer, R., 2770. Augustyn, W., and Sosin, Z. Photometric determination of small silicon contents in cryolite and other water-insoluble fluorides, 1155.

 Aumann, H. See Kielhöfer, E., 2398.
 Aunický, Z. See Neumann, J., 2268.
 Aures, D., and Werle, E. Determination of 4-aminosalicylic acid and isonicotinic acid hydrazide [isoniazid] in parenchymatous organs, 621.

Austian, J. See Leavitt, D. E., 3505. Auterhoff, H. Anthraquinones. IX. curves for determination of anthraquinones, 1336.

Avgul', V. T. See Chmutov, K. V., 1402. Awaya, H., Miyoshi, S., and Motojima, K. Spectrophotometric determination of micro amounts of aluminium and iron in alkalis with 8-hydroxy-

quinoline, 1795.

Awe, W., and Stohlmann, H. Chemical investiga-tion of some sympathomimetic drugs of the German Pharmacopoeia, 1973. Volumetric determination of the antibiotic chloramphenicol. Bromatometric and titanometric determination, 2370

Axelrod, A. E. See Martin, C. J., 3870. Axelrod, J. M., and Adler, I. X-ray spectrographic determination of caesium and rubidium, 786.

Axler, M. H. [Proceedings of the National Conference on Instrumental Methods of Analysis. Chicago, 1957.] Ultra-violet applications of Ulvir analyser, 1725.

Aya, M. See Kanazawa, J., 3036.

Ayers, A. S. Precipitation of thorium oxalate from nitric acid solutions, 3300.

Ayres, G. H., and Belknap, H. J. Spectrographic evaluation of separation of platinum from palladium, rhodium and iridium, 849.

B., H. J. Sublimation apparatus, 3941.

Baar. S. A micro-method for the estimation of

serum calcium, 1590.

Babenko, A. S. Sensitivity of detection of mag-

nesium by means of iodine, 381.

Babin, R. Determination of citrus flavonoids, 699. Mesnard, P., Geyer, A., and Delmon, G. Estimation of salivary amylases, 676.

Babko, A. K. Analytical chemistry in the USSR, 2479

and Drako. O. F. Photometric determination of tungsten and molybdenum as the thiocyanate

complexes, 485.

and Marchenko, P. V. Co-precipitation for obtaining analytical concentrates of cadmium, lead, bismuth and zinc in the analysis of alloys [molybdenum and tungsten with nickel], 2549.

and Mikhal'chishin, G. T. Separation of iron from aluminium and magnesium by extraction as

iron nitrosonaphthoxide, 101.

and Volkova, A. I. Amperometric determination of molybdenum and tungsten in the presence of nickel, 3715.

Bachra, B. N., Dauer, A., and Sobel, A. E. Com-plexometric titration of micro and ultra-micro quantities of calcium in blood serum, urine, and inorganic salt solutions, 3820.

Back, Z. See Knobloch, E., 1010, 2294. Back, E., Felicetta, V. F., and McCarthy, J. L. Diffusion cell scanning attachment for Beckman Model DU spectrophotometer, 1738.

Backe-Hansen, K., and Wickstrøm, A. Potentiometric titration of diphenolic oestrogens belonging to the stilbene series, 3143.

Bacon, A. See Milner, G. W. C., 3298.
Baddenhausen, H. See Götte, H., 1873.
Baddiley, J., Buchanan, J. G., and Carss, B. Identification of pentitols and hexitols, 1885.

Badgett, C. O. See Cherry, R. H., 4376.

Badica, E. See Spiliadis, A., 147.

Baekmann, A. von. See Ziegler, M., 4042.

Baev, F. K., Frenkel', R. I., and Storozhenko, Z. I.

Determination of thiosulphates and thiocyanates in baths for thermal sulphiding of metals, 2972

Bagbanly, I. L., and Mirzoeva, T. R. Volumetric determination of small amounts of thallium as

thallium reineckate, 4030. and Guseinov, I. G. Gravimetric determination of bismuth as the Reinecke salt, 2594.

Bagdasarov, K. N., Kovalenko, P. N., and Mel'nikova, S. S. Detection of cobalt, 1228.

Baggesgaard-Rasmussen, H., Berger, J., Espersen, G. Identification of drugs. II. and Sulphonamides, 248.

Berger, J., and Folting, K. Identification of drugs. IV. Antihistamines, 4292.
 Baglioni, C. See Fasella, P., 2504.

Bagshawe, B. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Modern analytical methods in the iron and steel industry, 2478

Baikina, V. M., and Khokhlov, A. S. Method of counter-current partition. II. Quantitative analysis of isomers in admixture by countercurrent partition as exemplified by the ortho and para isomers of chlorobenzoic acid, 572.

Bailey, D., Dowson, W. M., Harrison, R., and West, T. S. Qualitative inorganic analysis. IV.

Detection of tinIV, 3293.

Bailey, G. F. See Stitt, F., 1060.

Bailey, L. E. See Rubin, S., 1725.
Bailey, P. H., Hughes, M., and McDonald, A. N. C.
Differential loss of dry matter in the laboratory grinding of dried herbage samples, 3544.

Bailey, R. W. Acidity of sprays used in detecting ketohexoses on paper chromatograms, 4174.

Baily, P. Stabilisation of ferric thiocyanate colour in aqueous solution. Spectrophotometric method using ethyl methyl ketone, 843.

Bain, G. H. See Perry, J. A., 324. Bains, G. S. See Kapur, N. S., 1907.

Bakács (née Polgár), E., and Szekeres, L. Determination of alkali hydroxides in the presence of

alkali carbonates, 2517.

Szekeres, L., and Láng, B. Titration of arsenate ions with decimolar magnesium sulphate solution in the presence of calcium, magnesium, ferric and cupric ions and some other foreign substances, 1815.

See also Szekeres, L., 1115, 3265.

Baker, B. B. Estimation of hydrofluoric acid in red fuming nitric acid, 4103

Baker, B. E. See Macrea, H. F., 3899. Baker, G. D. See Beher, W. T., 210. Baker, H. See Hutner, S. H., 2867.

Baker, M. O. See Kincannon, C. B., 302.
Baker, W. J., Combs, J. F., Zinn, T. L., Wotring,
A. W., and Wall, R. F. [National Conference on Instrumental Methods of Analysis. Chicago, The galvanic cell oxygen analyser, 1725. 1957.]

Bakker, K. A. Determination of 4-amino-6hydroxyisophthalic acid and of m-aminophenol in sodium p-aminosalicylate, 240.

Bakker, N., and White, R. R. Micro-method for the colorimetric determination of total acetone bodies

in blood, 1947.

Balák, F. See Jindra, A., 1677.
Balasundaram, S., Cama, H. R., Sundaresan, P. R., and Varma, T. N. R. Conversion factors for the determination of vitamin A in fish-liver oils,

Baldwin, J. R. See Richmond, M. S., 1235.

Baldwin, W. H., and Higgins, C. E. Determination of equivalent weight of esters and halides with cation-exchange resins, 2682.

Balfe, M. P. Estimation of sulphite-cellulose extract in syntans, 927.

Bálint, T. Aromatic content of kerosine and gasoil fractions by ultra-violet light absorption, 3798.

alis, E. P. Quantitative determination of "Pentoksil" (2:6-dihydroxy-5-hydroxymethyl-4-methylpyrimidine) and "Metatsil" (2:6-dihydroxy-4-methylpyrimidine), 3144.

droxy-4-methylpyrimidnej, 3144.

Balis, É. W. See Fagel, J. E., jun., 1064.

Ball, J. S. See Hubbard, R. L., 1921.

Ball, R. G. See Menis, O., 372, 433.

Ballczo, H., Doppler, G., and Lanik, A. Microdetermination of fluorine by distillation and absorption, 2198.

— and Weisz, H. Detection of fluoride ion, 1512.
Balle-Helaers, E. Polarographic determination of

electrophoretic fractions, 3470.

Balloffet, G. See Romand, J., 1435.

Balogh, I. R. See Barna, S., 2326.

Banerjea, D. Spectrophotometric determination of titanium with salicylamidoxime, 2575.

Banerjee, N. G. See Majumdar, S. K., 2286, and

Panicker, A. R., 910.

Banerjee, S. N. See Siddhanta, S. K., 3624.

Banerjee, S. P. See Moitra, A. K., 2287.

Banerji, S. K., and Dey, A. K. 5-Chloro-2; 4-budro-waceston-benone as a research in increasing hydroxyacetophenone as a reagent in inorganic

analysis. Colour reactions with cations, 3256.

Banes, D. Analysis of Rauwolfia serpentina, 681.

Simplified nitrite procedure for the determination

of reserpine, 2366.

Banister, A. J. See Pollard, F. H., 2209.

Banks, C. V., and O'Laughlin, J. W. Spectrophotometric determination of ruthenium with 1:10phenanthroline, 846.

Spooner, J. L., and O'Laughlin, J. W. Differential spectrophotometric determination of rare earths, 2919.

- See also Bisque, R. E., 3280.

Banks, J., and Robson, J. Methods of boiler-water

analysis, 2418.

Bann, J. M., Lau, S. C., Potter, J. C., Johnson, H. W., jun., O'Donnell, A. E., and Weiss, F. T. Determination of endrin in agricultural products and animal tissues, 4349.

Bannykh, Z. S., and Sachko, A. P. Method of control of metallic potassium for the content of potassium and sodium, 3996.

Bányai, É. See Erdey, L., 1849.
Bapat, M. G., and Sharma, B. Application of amperometric dead-stop end-point to iodate procedures in the presence of mercuric mercury. 1431. Iodimetric determination of potassium permanganate by arsenous oxide following iodide reduction in presence of borax - boric acid buffer and barium chloride, 1517.

and Tatwawadi, S. V. Spectrophotometric titrations with alkaline ferricyanide as a volu-

metric oxidising agent, 2490.

Barabas, S., and Cooper, W. C. Determination of iron, nickel and lead in blister and refined copper,

Barak, A. J. See Humoller, F. L., 3489. Barakat, M. F. See Flaschka, H., 446. Barakat, M. Z., Shehab, S. K., and El-Sadr, M. M. Tests for bile and detection of bile in serum and urine, 638.

Baranov, V. I. [Reviews of Russian analytical chemistry.] Radiometric methods, 1082. Compensation method for the determination of actinium in small quantities, 3659.

Barańova, E. S., and Marchenko, T. V. on "Some Questions of Pharmacy." Conference Kiev, 1956.] Micro-method in the determination of ethanol by Widmark's method in chemico-legal research. 1661.

Barańska, H. Determination of traces of lithium, sodium, potassium and calcium by a simple flame photometer, 24. Flame-photometric determination of trace amounts of lithium, sodium. potassium and calcium in graphites, 2104.

Baraud, J. Determination of free amino-nitrogen in protein by means of thiocarbamate derivatives,

1636.

and Redeuilh, M.-J. Determination of aspartic and glutamic acids in the presence of malic, citric and succinic acids, 654.

Barbanel', D. G. See Morachevskii, Yu. V., 3686,

Barber, H. J., Odell, D. P., and Wragg, W. R. Melting-point apparatus, 3955.

Barceló, J. R. Infra-red spectrum of some metallic chelate compounds. I. Rubeanates, 3390.

Bardan, D. See Armeanu, V., 3999. Bardin, M. B., and Lyalikov, Yu. S. Amperometric titration of palladium by means of certain organic reagents on the rotating platinum electrode, 538

and Meleka, N. D. Amperometric determination of palladium with β-furfuraldoxime, 3758.

Bardocz, A. Time-resolved spectroscopy in spectrochemical analysis, 3215.

Barefoot, R. D. See Williams, D. D., 3223.
Barendrecht, E. Rotating hanging-mercury-drop electrode, 4384.

Bark, L. S. Qualitative analysis. III. Separation of the alkaline-earth group, 3273.

and Jones, W. F. Studies in qualitative analysis. VII. Detection of the alkali metals and magnesium, 3604.

Barker, F. B., and Thatcher, L. L. Determination of radium in water, 1386.

- See also Thatcher, L. L., 1385.

Barker, G. C. Square-wave polarography and some related techniques, 3237; III. Single-drop polarography, 1081.

and Cockbaine, D. R. Square-wave polarography. II. Notes on the use of the squarewave polarograph, 1081.

- and Faircloth, R. L. Twin electrodes in a.c.

polarography, 3228.

- Faircloth, R. L., and Gardner, A. W. Squarewave polarography. IV. An introduction to the theoretical aspects of square-wave polarography,
- and Gardner, A. W. Square-wave polarography. Organic adsorption - desorption waves, 1416.
- Milner, G. W. C., and Shalgosky, H. I. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Polarography, 2478. Barkhuysen, F. H. C. Calculation of titration

curves, 2487.

Barkley, J. H. See Gunther, F. A., 2028, 4351.

Barltrop, J. A., and Morgan, K. J. Ferric hydrox-amate colour reaction. I. Direct titration of water and acetic anhydride, 563.

Barna, S., Szabó, G., Feuer, G., and Balogh, I. R. Determination of thyroxine and tri-iodothyronine in serum for application in the differential diagnosis of thyroid disease, 2326.

Barnabas, J. See Barnabas, T., 779, 1697. Barnabas, T., and Barnabas, J. Separation of group IIb and IIIa metals by paper chromato-graphy, 779. Separation of saturated fatty acids by circular paper chromatography, 1697.

Barnard, A. J., jun., Broad, W. C., and Flaschka, H. EDTA titration: nature and methods of endpoint detection. II, 3249; III, 1432; IV, 2491.
and Büechl, H. Sodium tetraphenylboron, 1957: a bibliography, 3586.

See also Flaschka, H., 2492.

Barnard-Smith, D. G., and White, P. T. Evaluation of cryoscopic constants for the determination of

purity by the freezing-point method, 755.

Barnes, W. J. See Parker, C. A., 1740.

Barnett, G. A., and Milner, G. W. C. Analysis of thorium - boron and uranium - boron alloys,

See also Milner, G. W. C., 1843.

Barney, J. E., II. and Bertolacini, R. J. Colorimetric determination of chloride with mercuric chloranilate, 505.

— See also Bertolacini, R. J., 2185.
Barnholdt, B., and Hjarde, W. Chromatographic separation of five vitamin-A₁ isomers from the eyes of deep-water prawns (Pandalus borealis), 2799.

Baron, D. N., and Bell, J. L. Specific titration method for serum calcium, 1591. Comment on the estimation of magnesium in serum using Titan yellow, 2311.

Barringer, R. E. General Electric XRD-3 X-ray spectrometer and the analysis of uranium, 495.

See also Dietrich, W. C., 1184.

Barriol, J. Statistical theory of sampling, 2. Barrollier, J., and Heilmann, J. Paper-chromatographic determination of 17-oxosteroids in urine,

See also Heilmann, J., 3458.

Bartels, U. Estimation of nitrogen in poly(vinyl cyanide), 1296.

Bartha, L., and Görög, S. Volumetric determination of small amounts of cobalt with a ratio of equivalent weights of 1:37, 3751.

Barthel, K. Reporting of peroxide values for autoxidised fats, 2408.

Bartholome, C. See Hissel, J., 2421.

Bartik, M., and Kupka, J. Polarographic determination of nitrates and nitrites in the presence of each other, 2164.

Bartlet, J. C. Identification of edible oils and the detection of oil adulteration by differential infrared spectroscopy, 2795.

See also Stewart, J. A., 2545.

Bartlett, A. F. F. See Dixon, B. E., 3175.

Bartlett, E. S., and Williams, D. N. Continuousrecording laboratory thermobalance, 2846.

Bartley, W., Notton, B. M., and Werkheiser, W. C. Determination of manganese in tissue extracts by means of formaldoxime, 1593.

Barton, G. B. See Burns, R. E., 1199.

Barton, G. M., and Gardner, J. A. F. Determination of dihydroxyquercetin in Douglas fir and western larch wood, 2423.

Baryshnikova, M. N. See Korenman, I. M., 2910. Baše, J. See Kavan, I., 2963.

V. Ya. Thermodynamic analysis of Basevich, gases, 3599.

Bashilova, N. I. Chromate method for determining thallium, 3655.

Bashiova, V. M. See Figurovskii, N. A., 1680. Bashkevich, Yu. V. See Gershuns, A. L., 1452. Bashkirtseva, A. A., and Yakimets, E. M. Deter-

mination of aluminium and iron in materials from aluminium works with EDTA (disodium salt),

Bashun, Z. S. See Morachevskii, Yu. V., 3279. Basińska, H., and Bobińska, T. Cupric oxide as a

standard in iodimetric analysis, 2083,

Basiński, A., and Kuik, M. Amperometric titration of cadmium ions with lithium ferrocyanide solution, 1135.

Basl, Z., Plašil, Z., and Stangl, R. Determination of arsenic by means of extraction, 4064.

Bastian, R., Weberling, R., and Palilla, F. violet spectrophotometric determination of nitrate. Analysis of alkaline-earth carbonates, 1491.

Bastings, L. See Claassen, A., 4116. Basu, G. K. See Sobel, C., 3479.

Bates, R. G., and Wickers, E. Intercomparison of acids by differential potentiometric titration with hydrogen electrodes, 3371.

— See also Bower, V. E., 2078.

Batt, R. F. See Martin, J. T., 728.

Battles, W. R. Determination of sulphur in

petroleum distillates with the thread-wick lamp,

Battley, E. H. Carbon determination with alkaline

persulphate in the Warburg manometer, 177.

Batŷr, D. G. See Ablov, A. V., 3149.

Baudet, P., and Cherbuliez, E. Ultra-micro analysis of total nitrogen of peptides and amino acids isolated by paper chromatography or electrophoresis, 3096

Bauer, H. H., and Elving, P. J. Alternating current polarography. [I.] Experimental arrangement, reduction, 3234; [II.] Determination of transfer coefficient of electrochemical processes, 3234.

Baulieu, E. E., Weinmann, S. H., and Jayle, M. F. Analysis of neutral urinary 17-oxosteroids. Selective hydrolyses: identification and determination by paper chromatography, 3867.

See also Weinmann, S. H., 671. Baumann, H. Colorimetric determination of silica in the presence of phosphoric acid, 426.

Baumgartner, L. See Sansoni, B., 2168.

Bäumler, J. Paper-chromatographic identification of barbituric acid derivatives in toxicological analysis, 969.

Baumstark, J. S. Splash tube for drop counting fraction collectors, 1034.

Baur, P. Dielectric constant and its value for the analysis of paint raw materials, 1582.

Bauriedl, H. U. See Schmidt, F., 629. Bauserman, H. M., and Hanzas, P. C. Colorimetric determination of saponin as found in beet sugars,

Bausova, N. V. See Tananaev, I. V., 3651, and Zelyanskaya, A. I., 4026.

Bawa, M. S. Determination of carbonate carbon dioxide in coal, 2285.

Bayer, E., and Reuther, K.-H. Photometric micro-determination of acyl groups. Use of ferric iron - hydroxamic acid complexes. I, 550. - Reuther, K .- H., and Born, F. Analysis of

amino-acid mixtures by gas partition chromato-

graphy, 2335.

Bayer, I., and Posgay, E. Perchloric acid titration as a pharmacopoeia method, 2764.

Bayer, J. Ultra-violet spectrophotometric determination of natural ergot alkaloids, 679.

Bažant, V. See Houda, M., 2914. Bazhanova, L. A. See Alimarin, I. P., 439.

Bazzi, B. Determination of residues of OO-diethyl S-isopropylcarbamoylmethyl phosphorodithioate in olive oil and in fruits, 4348.

— See also Santi, R., 3191.

Beamish, F. E., and Westland, A. D. [Industrial applications of analysis, control and instrumentation.] Inorganic gravimetric and volumetric analysis, 2867.

— See also Westland, A. D., 1532, 2657.

Bean, E. H. See Hofer, L. J. E., 1049.

Beaumont, R. H. See Houff, W. H., 1568.

Becart, M., Deprez, G., and Roig, J. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Production of spark lines in a hollow cathode tube with pulse emission, 1435.

Bechtel, W. G., and Hollenbeck, C. M. Thiochrome procedure for determination of thiamine in cereal

products, 3913.

Beck, J. C. See Norman, N., 604.

Beck, M. T. Colorimetric determination of boron, 3642.

See also Szabó, Z. G., 3730.Beck, S. D., Kaske, E. T., and Smissman, E. E. Quantitative estimation of the resistance factor, 6-methoxybenzoxazolone, in corn plant tissue, 3189.

Beck, W. See Roth, H., 2257.
Beckman, H. F. Micro-determination of the medicaments furazolidone and nitrofurazone,

Ibert, E. R., Adams, B. B., and Skovlin, D. O. Determination of total chlorine in pesticides by reduction with a liquid anhydrous ammonia sodium mixture, 3934.

Beckman Instruments Inc. The "Spinco" ultracentrifuge, 1032.

Beckmann, I. See Tamm, J., 3476. Beckmann, R. See Dresia, H., 2520.

Beckmann, R. See Dresia, H., 2520.

Becquerel, G. New method of determining uranium, radium, thorium and actinium in fine particles of radioactive minerals, 1508.

Bedekian, A. See Weill, C. E., 881.
Bedi, R. D. See Merritt, L. L., jun., 3226.
Bednår, J. See Romovåček, J., 3389.
Bednas, M. E. See Russell, D. S., 1043.
Beechey, R. B., and Happold, F. C. Pyridoxamine phosphate transaminase. [Determination of enzyme activity], 214.

Beeler, R. G. See Berg, R. L., 2067. Beer, Z. de. See Mason, G. L., 2524. Beetch, E. B., and Oetzel, L. I. Colorimetric determination of sulphur dioxide from malt and beer by complexing with sodium tetrachloromercurate^{II}, 3162.

Beher, W. T., Parsons, J., and Baker, G. D. Comparative value of X-ray diffraction and infra-red spectrophotometry in identifying certain sterols

and their digitonides, 210.

Behnke, U. See Ruttloff, H., 2240, and Täufel, K.,

Behrends, J. See Runge, F., 2082. Beiles, R. G. See Gusev, S. I., 3717.

Beintema, J. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Volatilisation phenomena in the direct current arc used as a spectrochemical light source for the analysis of powders, 1435.

Beisova, M. P., and Kryukov, P. A. Conductimetric titration of sulphates in natural waters, 3919.

Beiss, U., and Armbruster, O. Identification of phosphatides by paper chromatography, 4249.

See also Armbruster, O., 2334.

Bejambes, M., Mocquot, G., and Pauthe, P. Preservation of milk samples for analysis by different antiseptics, 3517.

Békésy, N. Filling of adsorption columns, 2039. Bekina, R. M., and Petrova, A. N. Determination of the glucokinase reaction in liver, 1656.

Bekleshova, G. E. See Usatenko, Yu. I., 2947, 4128. Belcher, R., and Bhatty, M. K. Determination of nitrogen in coke by the Dumas-Schöniger method, 3802.

Bhatty, M. K., and West, T. S. Sub-micro methods for the analysis of organic compounds.

II. The determination of alkoxyl groups, 2668.
Close, R. A., and West, T. S. Some oo'-di-hydroxyazo indicator dyes for EDTA titrations, Further oo'-dihydroxyazo indicator dyes for EDTA titrations, 3970; Fast Sulphon black F as an indicator for the EDTA titration of copper, 2889.

Harrison, R., and Stephen, W. I. Qualitative inorganic analysis. VI. Charcoal-block reac-

tions, 3592.

Leonard, M. A., and West, T. S. Colour reactions of phthalein complexone, 3588.

and Macdonald, A. M. G. Lead chlorofluoride method for the determination of fluorine in

organic compounds, 1248.

Macdonald, A. M. G., and Parry, E. Mohr's method for the determination of chlorides, 504.

West, T. S., and Williams, M. Sub-micro methods for the analysis of organic compounds. Determination of nitrogen, 2225.

Belderok, B. Viscometric method for the determination of a-amylase activity in individual cereal grains, 1986.

Belekar, G. K., and Athavale, V. T. Separation of niobium from tantalum, titanium, tin and antimony by means of 8-hydroxyquinoline, 1494.

Belen'kaya, A. P. See Kazanskil, B. A., 3048. Belen'kii, B. G. Determination of ascorbic acid

content of blood by Tillmans method, 4233.

Belinskaya, N. I. See Skobets, E. M., 1516.

Belitz, H.-D. See Schormüller, J., 657.

Belknap, H. J. See Ayres, G. H., 849.

Bell, J. L. See Baron, D. N., 1591, 2311.

Bellen, Z., and Sekowska, B. Simultaneous determination of distribul esters of moneythylmalonic

mination of diethyl esters of monoethylmalonic and diethylmalonic acids in commercial diethyl diethylmalonate, 130.

Belli, J. J. J. See Garside, J. E., 1521. Bellod, R. P. See Parellada Bellod, R.

Belogorskaya, N. V., Petrashen', V. I., and Rudoi, B. Z. Determination of chromium by oxidation with perchloric acid in the presence of manganese dioxide as catalyst, 478.

Belousov, E. A., and Grinberg, A. A. Quantitative determination of chloroplatinite in the presence

of chloroiridite, 2658.

Belovic, B. See Heumann, W. R., 514. Belyaev, Yu. I., and Zaidel', A. N. Spectrographic analysis by the evaporation method. IV. Determination of the degree of condensation of impurities, 743.

See also Weinstein, E. E., 1769.

Belyaeva, E. N. Determination of iodine in natural waters, 4330.

Belyaeva, V. A., Tarantsova, M. I., and Glushko, E. I. Electrolytic separation of iron from titanium, 2579.

Belyakov, A. A., and Gorbyleva, N. V. Determination of microgram amounts of aniline, methylaniline and dimethylaniline in admixture, 1271.

Belyavskaya, T. A., and Fadeeva, V. I. Quantitative separation of beryllium from certain elements

by ion-exchange chromatography, 37.

and Shkrobot, E. P. [Conference on Methods of Analysis of Rare and Non-Ferrous Metals.] Separation of ter- and sexa-valent chromium by ion-exchange chromatography, 1442.

See also Alimarin, I. P., 439, and Przheval'skii,

E. S., 1786.
Bencze, W. L., and Schmid, K. Determination of

tyrosine and tryptophan in proteins, 204.

Bender, A. E. See Wood, T., 1691.

Benderskaya, S. N. See Vaisman, G. A., 1676.

Bene, E., and Géezy, K. Titration method for the quantitative determination of dyes, 1293.

Beneden, G. van. A colorimetric micro-determination of phosphorus in waters treated with polymetaphosphates, 2305. Turbidimetric microdetermination of phosphorus in waters containing polymetaphosphates, 3183.

Benedetti-Pichler, A. A., and Schneider, H. E. Heating in a stream of oxidising or reducing gas for the qualitative analysis of inorganic substances, 349.

Benedict, J. H. Determination of ethylene oxide in fumigated copra products, 2030.

Benerito, R. R. See Formusa, K. M., 1638, and Talluto, K. F., 4247. Beneš, J. Determination of fat in meal, 3528.

Colorimetric determination of iron in gelatin with 2:2'-dipyridyl, 3806.

Benger, H., and Kaiser, E. Colorimetric determina-

tion of choline esters, 2768.

Benito-Potous, A. See Burriel-Marti, F., 1714. Benkő, I., and Szádeczky-Kardoss, G. Spectrographic determination of trace elements in coal ash, 590.

Bennett, C. E., Nogare, S. D., Safranski, L. W., and Lewis, C. D. Trace analyses by gas chromatography, 3564.

— See also Nogare, S. D., 4363.

Bennett, G. M. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.]

Work of the Department of the Government Chemist, 2478.

Bennett, H., Hawley, W. G., and Eardley, R. P. Analysis of some silicate materials, 4150.

Bennett, H. L. See Armson, F. J., 4120.
Bennett, R., and Coppock, J. B. M. Flour testing.
I. Comparison of the Brabender extensograph, Chopin alveograph and Simon extensometer methods of testing bread flours with particular reference to the effect of various forms of flour treatment, 259.

Bennett, S. J., and Covington, L. C. Determination of oxygen in titanium. Modified vacuum-fusion apparatus and platinum-bath technique, 2578.

Bennett, W. J. Spectrochemical analysis of corrosion products on lead sheath of cables, 64.

Beran, P., and Doležal, J. Polarographic studies of some precious metals. VIII. Oscillographic behaviour of some platinum-group metals and of gold, 847. Oscillographic polarography in quantitative analysis. VIII. Determination of palladium, rhodium and iridium with ethylenediamine as electrolyte, 3005.

Beránek, E. See Cúta, F., 2187.
Beránek, M. See Seidl, K., 3590.
Beránek, T. L. Direct complexometric determination of magnesium in aluminium alloys with Eriochrome black, 39.

Beranova, D. See Hudeček, S., 2301.
Berdichevskii, É. G. See Valyashko, N. A., 1558.
Bereznitskaya, E. G. See Klimova, V. A., 546.
Berg, E. W. See Sen, B., 2079.
Berg, G. G. Ascending chromatography of poly-

phosphates, 2170. Berg, R. L., and Beeler, R. G. Method for per-

forming density-gradient electrophoresis, 2067. Bergel, F., Bray, R. C., and Harrap, K. R. The separation of riboflavine derivatives by countercurrent extraction, 943.

Everett, J. L., Martin, J. B., and Webb, J. S. Cellular constituents. Metals in normal and abnormal tissues. I. Analysis of Wistar rat livers for copper, iron, magnesium, manganese, molybdenum and zinc, 182.

Berger, J. See Baggesgaard-Rasmussen, H., 248, 4292.

Berges, L. S. See Serrano Berges, L.

Berggren, A. See Kirsten, W. J., 2251.
Bergkvist, R. Separation and estimation of nucleotides, 2331.
Separation of nucleotides by continuous ionophoresis, 3852.

Bergmann, F., Dikstein, S., and Chaimovitz, M. Quantitative determination of xanthines and uric acids in plasma, 4235. See also Dikstein, S., 4236.

Berisso, B. Microchemical reactions of piperazine and of 2:5-dimethylpiperazine and their application to micro-analysis, 1276.

Berka, A. Oxidation - reduction volumetric reagents. I. Titrations with potassium periodate, 3971; III. Titration with chloramine T, 3971. Volumetric determination of aldehydes, ketones and quinones, 4178.

and Vulterin, J. Oxidation - reduction volu-metric reagents. II. Titrations with potassium

ferricyanide, 3971.

and Zýka, J. Control of the purity of iodine and iodides, 97. Volumetric methods in the analysis of organic compounds. II. Determination of some aldehydes and ketones used in pharmacy, 220; IV. Utilisation of addition reactions of N-bromosuccinimide, 1678. Oxidising action of N-bromosuccinimide, 2489.

Berkman, S. See Henry, R. J., 213, 952, 1600.
Berliner, D. L., Dominguez, O. V., and Westenskow,
G. Determination of carbon-14 steroids on

paper chromatograms, 1651.

Berman, S. Determination of yttrium, lanthanum, cerium, neodymium and ytterbium in test samples granite G-1 and diabase W-1 by a combined chemical - spectrochemical technique, 420.

Bermejo Martinez, F., and Prieto Bouza, A. Photometric determination of molybdenum as the thiocyanate complex, 2611. Bermes, E. W., jun. See McDonald, H. J., 1037.

Bernal Nievas, J., and Serrano Berges, L. Determination of magnesium in cast-iron nodules. Volumetric method, 2641; II. Indirect colorimetric method, 2641; III. Direct colorimetric method, 2641.

Berneking, A. D., and Schrenk, W. G. Flame-photometric determination of manganese, iron and copper in plant material, 2811.

Bernhart, D. N. See Chess, W. B., 1813.

Bernshtein, V. N. Photo-nephelometric determination of caffeine, 3116.

Berry, H. K. Paper-chromatographic method for estimation of phenylalanine, 3095.

Bershadskaya, O. D. See Dzhaparidze, E. S., 4035. Bersztel, J. See Kalinowski, K., 2384.

Berthet, J., Sutherland, E. W., and Rall, T. W. Assay of glucagon and epinephrine [adrenaline] with liver homogenates, 2730.

Bertheux, M. H. Purification of charcoal for removing organic colouring in soil extracts before phosphate estimations, 1018. Modified procedure for the fractionation and determination of soil phosphorus, 4340.

Bertin, M. E., and Guerrero, A. H. Determination of small amounts of aluminium in titanium, 2136.

Bertling, L. See Böhme, H., 263.

Bertolacini, R. J., and Barney, J. E., IL. Ultraviolet spectrophotometric determination of sulphate. chloride and fluoride with chloranilic acid, 2185.

See also Barney, J. E., II, 505.

Berton, A. Infra-red and ultra-violet photometers in analytical chemistry, 1051. Method of detection and determination of chlorinated ethylenic solvents in air, 3176.

Bertram, H. W., Lerner, M. W., Petretic, G. J., Roszkowski, E. S., and Rodden, C. J. Automatic determination of uranium in process streams,

Bertrand, P. See Godfrain, J. C., 1989. Bertucat, M. See Mesnard, P., 4287.

Berueffy, R. R. See Hendrickson, M. J., 1713. Berzins, V. See Tasman, J. E., 2297. Besch, P. K. See Goldzieher, J. W., 3482.

Beseda, G. A. See Ibadov, A. Yu., 3137.

Bethge, P. O. Determination of pentosans. A u.v. spectrophotometric method for determination of furfuraldehyde and 5-hydroxymethylfurfuraldehyde in distillates after Tollens distillation, 126.

- Carlson, O. T., and Freyschuss, S. K. L. Determination of 8-hydroxyquinoline (oxine) in mech-

anical pulp, 161

- and Persson, R .- M. Determination of pento-II. Use of barbituric acid for the detersans. mination of furfuraldehyde, 126.

Betti, R. See Solinas, P., 1645.

Bevenue, A., and Williams, K. T. Colour test for 5-ketoaldonic acids on paper chromatograms, 2330. Quantitative determination of raffinose or melibiose by paper chromatography, 3840.

Beverly, M. L. See Dean, J. A., 3321. Bevirt, J. L. See Gehrke, C. W., 1016.

Beyer, K. W., and Aepli, O. T. Spectrochemical determination of trace impurities in commercialgrade ammonium chloride, 1490.

Bezuglova, T. I. See Spiridonova, O. S., 2992. Bezuglyı, V. D., and Dmitrieva, V. N. Polarographic study of monomers. Esters of methacrylic acid, 595. Polarographic determination of benzoyl

peroxide in certain plastics, 3813. See also Dmitrieva, V. N., 1906. Bhansali, K. See Lach, J. L., 3131.

Bhargava, H. D. See Pendse, G. P., 3625. Bhargava, P. N., Veerabhadriah, N., and Satyana-rayana, B. sym.-Di-m- and -p-tolylthiovioluric acids as reagents for gravimetric estimation of metals and for salts of organic bases, 3241.

Bhatia, D. S. See Kapur, N. S., 1907.

Bhatnagar, C. S. See Saxena, R. S., 2685. Bhatnagar, D. V. Estimation of free nitric acid in uranyl nitrate by ion exchange, 91.

Bhattacharya, H. See Ganguly, S. K., 965.

Bhattacharya, K. R., Datta, J., and Roy, D. K. Paper-chromatographic method for the estimation of histidine, 1635.

Bhattacharya, P. B. See Khanna, K. L., 285. Bhatty, M. K. See Belcher, R., 2668, 3802.

Bhuchar, V. M., and Verma, M. R. Annulus method for the separation and detection of titanium and chromium on a filter-paper, 3670.

See also Verma, M. R., 40, 2538. Bickford, W. G. See Hoffmann, J. S., 1890. Bierig, E. See Norwick, B., 1579.

Bighi, C., and Trabanelli, G. Separation of complex ions by means of continuous electrochromato-graphy, 1094. Continuous electrochromatography, 1094. Continuous electrochromato-graphy for the separation of certain pairs of characteristic anions and cations, 1774.

See also Cavallaro, L., 1773. Fitelson's test for tea-seed oil in olive oil, 2798.

See also Plebani, T. N., 2797.

Bilimovich, G. N., and Alimarin, I. P. Technique of the isotope dilution method, 2862.

Bilińska, U. Colorimetric determination of rutin

with quadrivalent titanium salts, 3882.

Bill, M. E. See Resnik, F. E., 1549.

Biller, W. F. See Quiram, E. R., 4325.

Billman, J. H., Ho, J.-Y. C., and Casswell, L. R. Solid derivatives of aldehydes. II. A specific reagent for aldehydes: 1:2-di-(p-chlorobenzylamino)ethane, 1889.

Bills, K. M. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Influence of the electrical parameters of an intermittent d.c. arc unit on the distribution of spectral energy across the analytical gap, 1435.

Billy, M., and Lamure, J. Determination of nitrogen in silicon nitride, 2951.

Binova, E. S. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Chromatographic and luminescence analysis in the determination of the alkaloids of the tropane group (atropine and hyoxcine), 1661.

Birch, H. J. See Mackey, D. R., 1557. Bird, E. W. See Handwerk, R. L., 3520.

Birk, M., Braid, T. H., and Detenbeck, R. W. Two-dimensional pulse-height analyser, 4387.

Birks, F. T. Spectrographic estimation of majorconstituent plutonium by the iron-flux method, 1200.

Birks, L. S., and Brooks, E. J. Electron probe X-ray micro-analyser, 2060. See also Brooks, E. J., 1063.

Birrell, K. S. Examination of Orr and Bankston stearic acid method for determining surface area of clays, 1237.

Bishop, E. Differential electrolytic potentiometry. II. Precision and accuracy of applications to redox titrimetry, 2874.

Bishop, L. R. Studies of methods of hop analysis. III. Methods of analysis for α -acids and other resin constituents, 987.

Bishop, M., and Ward, D. L. Determination of mineral matter in coal, 3759.

Bisque, R. E., and Banks, C. V. Spectrophotometric determination of zinc and other metals with αβγδ-tetraphenylporphine, 3280.

B.I.S.R.A. See British Iron and Steel Research

Association.

Bisso, J. D. See Haff, L. V., 3337. Bitancourt, A. A. See Schwarz, K., 2044.

Bitskei, J. Oxidimetric titrations in alkaline solutions, 8.

Biža, V. See Zmitko, J., 2441.

Bjerkerud, L. Sampling methods for the determination of hydrogen in steel, 104. Apparatus for the determination of hydrogen in steel, 105.

Blachly, F. E. See Goff, H., jun., 1993. Black, J. See Gollub, S., 637.

Black, R. H., and Lemieux, P. E. Direct-reading spectrochemical analysis of non-metallics used in the aluminium industry, 409.

Blackburn, R. See Nachlas, M. M., 3872.
Bladh, E., Karrman, K. J., and Andersson, O.
Micro-determination of sulphur in organic compounds by the silver-gauze method, 3366.
- and Nordén, A. Determining 1-butyl-3-p-tolyl-

sulphonylurea (tolbutamide) in human blood

serum, 3827.

Blair, J. W., and Amis, E. S. Chromatography of a mixture of hexane, chloroform and benzene on silica gel, 2675.

Blake, G. G. Electrostatic discharge method of zone location for paper chromatographs. 3198; 11, 3198.

Blake, M. I. Analysis of phenol-containing volatile oils, 2711.

See also Fibranz, L., 3807.

Blank, E. W. Analysis of alkylbenzenesulphonates, 3791

Blankenhorn, D. H. Carotenoids in man. II. Fractions obtained from atherosclerotic and normal aortas, serum and depot fat by separation on alumina. [Determination of carotenoids.], 1616.

Blanquet, P. See Mounier, J., 658.
Blasius, E., and Lange, G. Ion-exchange membranes in preparative and analytical chemistry,

3950

Blaug, S. M. See Lach, J. L., 3129, 3131. Blažek, J. Polarographic determination of arecoline-acetarsol (Nemural Hoechst) in tablets, 247. Polarographic determination of some derivatives of phenothiazine important in pharmacy, 252. Bromimetric determination of 2-n-butylamino-1-p-hydroxyphenylethanol sulphate (Vasculat), 4291.

- Krácmar, J., and Stejskal, Z. Determination of 2-mercapto-1-methyliminazole (Metothyrin),

1976.

- Mareš, V., and Stejskal, Z. Determination of new antihistamines by a chromatographic ion-

exchange method, 1683.

and Safařík. L. Potentiometric titration of drugs with a blocked aromatic amino group. Titration of acetanilide in mixtures with other pharmaceuticals, 2375.

and Steiskal. Z. Potentiometric titrations of drugs possessing a blocked aromatic amino group. II. Determination of some pharmaceutically important sulphones (Diaphenylsulfon, Sulfon, Rodilone) [dapsone, 4-carboxymethylamino-4'aminodiphenyl sulphone, 4;4'-diacetylamino-diphenyl sulphone], 3888. Volumetric determination of 6-mercaptopurine, 251.

Blazsek, V. Specific reagent for methionine and its use in paper chromatography, 1316. Determination of purines and pyrimidines by paper

chromatography, 3795.

Blinn, R. C., and Gunther, F. A. Determination of ammonia with cupric carbonate, 1488.

— See also Gunther, F. A., 1724, 2028, 4351, 4373.

Blish, M. J. See Seidman, M., 653.

Blitz, M. See Eigen, E., 284.

Bloch, L., and Thienpont, R. A. J. Potentiometric determination of vanadium (vanadium pentoxide), and a survey of other volumetric methods.

Block, R. J., Werner, S. C., and Mandl, R. H. Investigation of radio-iodine in the serum after

small test doses of iodine-131, 3432.

Blöckinger, G. Determination of mercaptobenzothiazole (MBT) in technical Captax and Altax, 1585.

Blok, N. I., Lashko, N. F., Sorokina, K. P., and Khimushin, F. F. Phase analysis of chromenickel-titanium steel with inter-metallide strengthening, 1861.
Glazova, A. I., Kokhova, G. M., and Lashko,

N. F. Phase analysis of complex titanium alloys, 3668.

Blokh, I. M. See Polyakov, P. M., 2532.

Blomgren, E., and Jenner, H. Chemical reagent for the quantitative determination of water, 3585. Bloom, B. See Mehler, A. H., 1739.

Bloom, M. Improvised traps for vacuum lines, 305.

Blum, A. S. See Osgood, D. R., 4404.
Blum, L. Paper electrochromatography: separation of chromium^{III}, chromate, molybdate and tungstate, 3712.

Blumenkrantz, N. Micro-test for mucopolysaccharides by means of tolidine blue, 1614.

Blyakhman, A. A. See Fainberg, S. Yu., 32, 408,

Boaz, H. E., and Forbes, J. W. Apparatus for spectro-titration of sub-milligram samples, 2842.

Bobińska, T. See Basińska, H., 2083.
Bobrova, M. I., and Matveeva, A. N. Polarographic determination of 2:2'-azobisisobutyronitrile, ali-

phatic and aromatic nitriles, 567.

Bobtelsky, M., and Eisenstadter, J. Micro-hetero-metric determination of silver with p-dimethylaminobenzylidenerhodanine. Direct determination of traces of silver in alloys and solutions, 2529. Compounds of gold and palladium with rubeanic acid [dithio-oxamide] Composition. structure and analytical use, 2897.

and Rafailoff. R. Micro-heterometric determination of cadmium with sodium diethyldithio-

carbamate, 1791

Boch, J. See Kadlec, J., 4034.
Bochkova, V. M. See Peshkova, V. M., 527.
Bock, R., and Herrmann, M. X-ray emission-spectrum analysis of solid materials, 2451.

Bockemüller, W., and Oerter, A. Zone-electro-phoresis in agar gel, 756.

Bockshammer, H. See Wittmose, A., 3746.

Bode, E., and Waldschmidt, M. Micro-determina-

tion of iodine in biological material, 2313.

Bode, H., and Schaaff, G. Stability of aqueous alkaline solutions of dithiol, 2871.

- and **Tusche**, **K.-J.** Disubstituted dithiocarb-amates. VI. Displacement reactions between metal diethyldithiocarbamates in organic phase and metal ions in aqueous phase, 1772.

Bodenheimer, W. Determination of magnesium oxide in silicates, 2126.

Boekenoogen, H. A. Foots in linseed oil, 919. Boëtius, M., Gutbier, G., and Reith, H. Determina-tion of halogens (chlorine, bromine, iodine) and sulphur on a single sample by a modification of the micro-method described by W. Schöniger, 3768.

Bogareva, K. G. See Dobrynina, O. N., 4136. Bogatskii, V. D., and Mozharovskaya, A. V. Quantitative determination of small quantities of

Bogina, L. L., and Martyukhina, I. P. Colorimetric determination of ferric oxide in rubber and vulcanisates, 3815. Photometric determination of manganese in ignited magnesia and chalk, 4113.

Bognár, J. Mercurimetric titrations with redox indicators. II. Determination of thiocyanate,

cyanide and mercuric ions, 3661.

and Jellinek, O. Mercurimetric titrations with redox indicators. I. Determination of halides and mercuric ions, 2623.

Böhm, M., and Zimmermann, H. Micro-determination of acetone and acetoacetic acid in blood by means of the acetoacetic acid determination of F. Bahner, 1948.

Böhme, H., and Bertling, L. Determination of

diphenyl in citrus fruits, 263.

and Hocke, H. Chromatographic purity test of ephedrine hydrochloride. VI. Behaviour of solutions of alkaloidal salts in alumina columns, 1330.

Bohn, H. See Fischer, F. G., 1951.

Bohnstedt, U., and Budenz, R. Photometric semi-micro procedure for the determination of phosphorus, especially in steel and inclusions, 2644. Photometric semi-micro determination of arsenic, especially in steel, iron and inclusions, 2645. Photometric semi-micro determination of sulphur, especially in steel, iron and inclusions,

Bohon, R. L., Isaac, R., Hoftiezer, H., and Zellner, R. J. Determination of alkylpyridines by infrared spectroscopy. Rapid methods of analysis,

2276.

Böhringer, P. Range of validity of simplified method of calculation for the proportion by weight 20°/20° or 20°/4° for the determination of must weight, alcohol and extract content in grape must and wine by the pycnometer method, 4314.

Bolkina, B. S. See Peregud, E. A., 1201. Bolgova, G. D. See Alimova, E. K., 2238.

Bolotov, M. P. Determination of small quantities of bilirubin in urine, 4238.

Boltz, D. F. See Hutchinson, K., 1812, Lueck, C. H., 2167, and Mellon, M. G., 2867.

Bomstein, J. Infra-red spectra of oxirane compounds. Correlations with structure, 3070.

Bomstein, J. Infra-red spectra of oxinate compounds. Correlations with structure, 3070.

Bonavita, V. See Scardi, V., 1598.

Bond, A. D. See Kepner, R. E., 146.

Bond, G. M. See Parker, W. H., 3944.

Bondarenko, A. M. See Martynchenko, I. U., 1225.

Bondi, A. See Budowski, P., 1996.

Bondy, P. K., and Upton, G. V. Simultaneous determination of cortisol and corticosterone in human plasma by quantitative paper chromatohuman plasma by quantitative paper chromatography, 3100.

See also Karka, M. S., 956.

Bone, A. D. See Weil-Malherbe, H., 632.

Bongiovanni, A. M., and Eberlein, W. R. Critical analysis of methods for measurement of pregnane-3α: 17α: 20α-triol in human urine, 2751.

Bonner, O. D. Ion-exchange resins with non-aqueous and mixed solvents, 12.

Bontemps, R. Resolution of binary mixtures of

drugs, 4289.

Boog, W., and Kunst, E. D. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Identification and quantitative determination of tertiary butyl groups in hydrocarbons by Raman and infra-red spectroscopic methods, 1435.

Booman, G. L., Elliott, M. C., Kimball, R. B., Cartan, F. O., and Rein, J. E. Determination of free acid in the presence of hydrolysable ions,

See also Dykes, F. W., 1205, Maeck, W. J., 3718, and Puphal, K. W., 1207.
Booth, E., and Evett, T. W. Absorptiometric beneath 2212 determination of traces of iron in bismuth, 2212. and Parker, A. Determination of oxygen in beryllium by the micro vacuum fusion method,

Bootzin, D. See LeMar, R. L., 133. Borisenok, L. A. Spectrographic determination of gallium in silicate rocks and minerals, 2917.

Boris, P. See Weiner, R., 4086.
Bork, V. A. See Kreshkov, A. P., 3014.
Borlera, M. L. Polarographic analysis of iron ores, 1219.

See Bayer, E., 2335.

Borok, M. T. Continuous determination of nitric oxide concentration in coke gas, 2952.

Borror, A. L. See Sasin, R., 2247. Borth, R. Chemical assay of corticosteroids in human body fluids, 3869.

Bose, B. Assay of Rauwolfia serpentina, 1331. Bose, S. Estimation of formaldehyde by Romijn's method in presence of ammonium salts, 1887. Estimation of acetaldehyde by hypoiodite oxidation, 2678. Determination of iodoform by photooxidation, 4299.

Böswart, J., and Jindra, A. Ion exchangers in the chemistry of alkaloids. III. Isolation of mor-

phine from opium, 1667.

Botalla, G. See Monzini, A., 2788. Botter, F., and Dirian, G. Analysis of mixtures of ortho- and para-hydrogen and the catalytic conversion orthohydrogen = parahydrogen, 3992. Bottomley, G. A. Valve for the grease-free manipu-

lation of mercury, 2434.

Botty, M. C. See Rochow, T. G., 2867.
Boudden, C. See Truhaut, R., 3080.
Bouilloux, G. Formation of some new complex iodides of cadmium. Analytical applications, 397. Boulin, R. Determination of carbon in steel by

combustion and conductimetry, 4121.

and Jaudon, E. Determination of carbon by combustion of non-alloy steels, 2993.

Bourdeau, A. See Gero, E., 2800.
Bourgeois, J. Chromatographic and microbiological determination of amino acids in different vinegars, 2400.

Bourrillon, R. Spectrophotometric analysis of plasma bilirubin, 3443.

Boutwell, J. H., jun. Direct nesslerisation of blood and urine filtrates in the determination of urea (as ammonia), 1603.

Bouza, A. P. See Prieto Bouza, A.
Bovay, E., and Cossy, A. Determination of boron in fertilisers by ion exchange and flame spectro-

photometry, 1012.

Bovee, H. H., and Robinson, R. J. Spectrovisual method for determining end-points. Titration of soluble sulphate, 817.

Bovey, L. Emission and absorption spectra of plutonium excited in a King furnace, 3726.

Bovis, M. See Van Pilsum, J. F., 187. Bowden, C. H. See Maclagan, N. F., 641. Bower, V. E., and Bates, R. G. Standards for pH measurements from 60° to 95° C, 2078.

Bowers, R. C., and Wilson, A. [National Conference on Instrumental Methods of Analysis. Chicago, 1957.] Characteristics of a polarographic mercury membrane electrode, 1725.

See also DeFord, D. D., 2867.

Bowersox, D. F., and Swift, E. H. Precipitation of cadmium sulphide from acid solutions of thioacetamide, 4017.

Bowman, F. W. Test organisms for antibiotic microbiological assays, 3120.

Bowness, J. M. Carbazole reaction and the estimation of glucuronic acid and glucose in some acidic polysaccharides and in urine, 1609.

Boyd, J. D. See Osgood, D. R., 4404.
Boyle, A. J. See Epstein, E., 954, and Goodwin,
J. F., 1321, 4248.
Boyle, W. G., jun., and Robinson, R. J. Spectrophotometric studies of chelates of 8-quinolinol [8-hydroxyquinoline] in water-miscible organic solvents. Photometric titrations with 8-quinolinol, 3259.

Bozsai, G. Amperometric titration in the analysis of pharmaceutical preparations, 1671.

Bozsai, I. Amperometric titrations in the analysis of metals, 1443.

Brabson, J. A. See Wendlandt, W. W., 1837.
Brackett, J. W. See Bradford, L. W., 3873.
Brada, Z. See Kočent, A., 2040.
Bradford, B. W., and Nicholson, D. L. [Congress.

Modern analytical chemistry in industry. St. Andrews, 1957.] Process analytical control: the problems of manpower, productivity and automation, 2478.

Bradford, E. C. See Fritz, J. S., 4052.
Bradford, L. W., and Brackett, J. W. Systematic procedure for the identification of dangerous drugs, poisons and narcotics by ultra-violet spectrophotometry, 3873.

Bradhurst, D. H., Coller, B. A. W., and Duncan, J. F. Radiometric titration with silver and

cobalt tungstates, 823. Bradley, D. Properties of hexone [isobutyl methyl

ketone] in relation to its use for uranyl nitrate extraction, 3383.

Bradshaw, W. See Silverman, L., 4051. Bradshaw, W. S. See Ingamells, C. O., 4114. Bradt, P., and Mohler, F. L. Mass spectra and

relative sensitivities of polyphenyls, 3794.

Brækkan, O. R. See Lambertsen, G., 269, 3912. Bragg, R. H. See Copeland, L. E., 2443. Braicovich, L., and Landi, M. F. [Seminar of the

Centro Ricerche Spectrochimiche of the Associazione Italiana di Metallurgia.] Determination of sodium in aluminium oxide and hydroxide and in 'red mud' (Bayer process) by flame spectrophotometry with the Beckman spectrophotometer, 15. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Determination of sodium by flame spectrophotometry in aluminium oxide, 1435.

Braid, P. E., and LeBoeuf, J. Determination of trace amounts of lindane in air by infra-red spectrophotometry, 1381.

Braid, T. H. See Birk, M., 4387.

Brake, L. D., McNabb, W. M., and Hazel, J. F.
Photometric titration of nickel in the presence of cobalt, 2217.

Braman, R. S. See DeFord, D. D., 1725.

Brancaccio, A., D'Alessandro, B., and De Luca, R. Micro-method for determining total 17-hydroxysteroids of plasma, 4267.

Brandenstein, M. See Rockenbauer, W., 3705. Brandstätter-Kuhnert, M., and Grimm, H. Identification of local anaesthetics, 1343.

Brandštetr, J. See Vřešťál, J., 2169, 2199, 2494. Brandt, W. W., and Duswalt, A. A., jun. Determination of fluoride ion by turbidimetric titration, 4104.

Branica, M., and Mesarić, S. Polarographic determination of ruthenium in citrate and tartrate solutions, 3353.

See also Mesarić, S., 3352.

Braun, H. E. Condensed direct-current arc excitation for spectrochemical analysis of plant materials, 4332.

Braun. T. Catalysis-inhibition (anti-catalysis) in analytical chemistry. Determination of silver and mercury with the ceric sulphate - arsenous acid - sodium iodide system, 34. Quantitative chromatographic filter-paper method utilising a battery of microchromatograms with bridges, 309.

Braverman, M. M. See Jacobs, M. B., 1001. Bray, E. E. See Evans, E. D., 1570.

Bray, R. C. See Bergel, F., 943.

Brealey, L., and Ross, R. E. Direct-reading fluorimeter, 2061.

Brederode, H. van, and Reeskamp, C. J. Determination of shell constituents in cacao products. 985.

Breger, A. Kh., Ormont, B. F., Kutsev, V. S., Viting, B. I., and Chapyzhnikov, B. A. Lowenergy betatron radiation for the determination of oxygen in semi-conductors and metallic materials (particularly titanium oxycarbides),

Brenner, M. W., Jakab, G., and Owades, J. L. Total sulphydryl [thiol] content of beer. Analytical method, 2396.

See also Owades, J. L., 988, 3525.

Bresle, A. Precision polarography, 2879.

Bretcanu, D. See Spiliadis, A., 147. Breuer, H., Nocke, W., Geissler, G., and Mitchell,

F. L. Determination of oestrogen in urine, 212. Breyer, A., and Rieman, W., III. chromatography. IV. Aldehydes and ketones,

Brháček, L. Polarographic determination of tin and antimony in iron and steel, 108.

Bricker, C. E. and Parker, G. H. Precipitation of magnesium with ethylenedinitrilotetra-acetic acid [EDTA], 791.

and Schonberg, S. S. Photonometric determination of vanadium and chromium, 3316.

and Waterbury, G. R. Colorimetric determination of microgram amounts of tungsten in uranium - tantalum - tungsten alloys, 87. See also Waterbury, G. R., 810, 3318.

Bricteux, J. See Coppens, L., 3774.

Briggs, R. See Knowles, G., 3180.

Bright, N. F. H., Ripley, L. G., Rowland, J. F., and Lake, R. H. Determination of the oxygenuranium atomic ratio in non-stoicheiometric uranium dioxide and other oxides of uranium, 1192.

Spectrophotometric determination of Bril, J. aluminium and iron in industrial silicons, 3649. Brink, A. Volumetric determination of phthalic anhydride in alkyd resins, 598.

Brinkerhoff, J. See Ziegler, C. A., 1446.

Briski, B., and Brodarec, A. Determination of arachis oil in edible oils by partition chromatography on filter-paper, 3908.

Brisset, R. Apparatus for the evaporation of volatile solvents in toxicology, analytical chemistry and biochemistry, 2437.

British Iron and Steel Research Association. Combined determination of niobium and tantalum in steel, 4130.

British Standards Institution. Washed flock (loose or layered), 916. Analysis of aluminium and aluminium alloys. VIII. Iron (absorptiometric 1:10-phenanthroline method), 1146; IX. Manganese (volumetric. arsenite - nitrite method), 1146; X. Manganese (absorptiometric method), 1146. Analysis of glass. II. Recommended procedure for the analysis of soda - boric oxide alumina - silica glasses of high silica and boric acid content, 1238. Determination of closed flash-point of petroleum products by means of the Pensky - Martens apparatus, 1280. Determination of tetraethyl-lead in gasoline (hydrochloric acid method), 1281. Determination of acid and base numbers (neutralisation value) of petroleum products by colour indicator titration, 1282. Determination of drop-point of petroleum grease, 1286. Analysis and testing of coal and coke. II. Total moisture of coke, 1289; III. Proximate analysis of coal, 1289; IV. Proximate analysis of coke, 2186; V. Gross calorific value of coal and coke, 1289. Methods of testing cellulose acetate flake, 1294. Quantitative chemical analysis of mixtures of protein and non-protein fibres, 1295. Determination of the viscosity of liquids in c.g s. units, 1407. Analysis and testing of coal and coke. I. Total moisture of coal 1572. Carbon tetrachloride, 1880. Diethyl ether (technical), 1881. Formaldehyde solution, Paraformaldehyde, 1888. Di-n-butyl phthalate, 1897. Tritolyl phosphate, 1901. o-Dichlorobenzene (Grades A and B), 1903, pH value of aqueous extracts of paper, 1929. Vacuum drying ovens for microchemical purposes. Microchemical apparatus. Group Heating, cooling and drying accessories, 2032. Density - composition tables for aqueous solutions of nitric acid, 2035. Filtration apparatus for microchemical analysis. Microchemical apparatus. Group F: Filtration accessories, 2037. Treatment of water for marine boilers, 2807. Reduction and presentation of experimental results, 2868. Testing vulcanised rubber. Parts B6 to B10. Determination of sulphur, 3066. Carbon and hydrogen combustion train (Pregl type). Microchemical apparatus, 3222. Analysis of iron and steel. XXXVIII. Arsenic in iron and steel, 3345. Sand for making colourless glasses, 3355. Analysis of glass. III. Recom-mended procedure for the analysis of potassium oxide - lead oxide - silica glasses, 3356. Essential oils, 3414. Analysis of oils and fats, 3526. Vaporimetric molecular-weight determination apparatus. Microchemical apparatus. Group K: Accessories for physical gravimetric methods, 3559. Testing plastics. IV. Analytical methods and viscosity in solution, 4223.

Britton, W. G. Colorimetric determination of indium with di-2-naphthylthiocarbazone, 3652. Broad, W. C. See Barnard, A. J., jun., 1432, 2491,

3249, and Flaschka, H., 2492. Brochmann-Hanssen, E. See Alberts, W. W., 3426. Brocemann-Hanssen, E. See Alberts, W. W., 3426.
Brodarec, A. See Briski, B., 3908.
Broderson, P. H. See Arvia, A. J., 2468.
Brodský, J. See Zmitko, J., 2441.
Brofazi, F. R. See Manganelli, R. M., 1005.
Brofeldt, M. Calculation of the original extract of

beer, 3159. Calculation of the original extract content of the wort in beers, 3160.

Brogan, J. W. See Mackey, D. R., 1557. Brokke, M. E., Kiigemagi, U., and Terriere, L. C. Spectrophotometric determination of 2-(p-tert.butylphenoxy)-1-methylethyl 2-chloroethyl sulphite (Aramite) residues, 3554.

Bronk, L. B. See Fagel, J. E., jun., 1064.

Brooks, E. J., and Birks, L. S. Compton scattering interference in fluorescent X-ray spectroscopy,

See also Birks, L. S., 2060.

Brooks, F. R. See White, T. T., 2660.

Brooks, J. See Williams, A. F., 3030. Brooks, R. V. Quantitative fractionation of urinary 17-oxosteroids with some observations on steroid excretion during administration of ACTH

and in the adreno-genital syndrome, 3480. Brown, A. W. Determination of the original water cement ratio of hardened concrete, 2222.

Brown, C. J. See Onstott, E. I., 2144.
Brown, C. L., and Kirk, P. L. Electrochromatophoretic isolation of alkaloids, 1663. See also Kirk, P. L., 1687.

Brown, J. G. See Jackson, R. K., 282. Brown, J. R. Technique for vacuum filtration, 307. Brown, J. W. See Reinhart, J. H., 4362.

Brown, K. D. See Helbert, J. R., 945.

Brown, P., and Smith. A. L. [Infra-red quantitative analysis data.] Quantitative determination of methoxy groups in siloxane polymers, 3069. Brown, R. R. Isolation and determination of

urinary hydroxykynurenine, 1605.

Brown, T. L. Solvent effect in infra-red intensities, 3218.

Browne, J. S. L. See Norman, N., 604. Broz-Kajganović, V. See Kranjčević, M., 3492.

Bruch, J. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Spectrographic determination of carbon in low- and highalloy steels, 1435.

Bruckner, B. H. See Isbell, H. S., 870.

Bruckner, G., Flatow, R., and Rohrlich, M. tative determination of DDT in milled cereals and baked products and its retention in bread, 1985.

Brückner, J., and Desmond, F. B. Spectrophotometric method for the estimation of carbon

monoxide haemoglobin in blood, 3435. Bruening, C. F., Hall, W. L., and Kline, O. L. Rapid determination of the relative purity of

vitamin B₁₂ (cyanocobalamin) in pharmaceutical products, 3124.

Brühlmann, R., and Piatti, L. Titrimetric determination of boron in ferrous metals, 844. Bruin, H. J. de. See Smythe, L. E., 2886.

Brunink, H. See Hardon, H. J., 291.

Brunisholz, G. Separation of rare earths by means of ethylenediaminetetra-acetic acid. IV. Separation on ion exchangers, 2920.

Bruno. S. Chromatographic separation of some steroids by phase inversion, 1647.

Bruns, B. P., Kartseva, V. D., Savitskaya, E. M., and Korobitskaya, A. A. Determination of streptomycin and mannosidostreptomycin in culture liquids and in streptomycin intermediates, 684.

Brunstad, A. Coulometric determination of plutonium and uranium, 499.

Brusilovskil, S. A. See Spitsyn, V. I., 391. Brustier, V., and Pitet, G. Entrainment of arsenic by nascent sulphur and its determination in

several liquids and biological products, 1944.

Bryan, F. R., and Runge, E. F. Method of monitoring spectroscopic sources, 317.

— See also Parsons, J. L., 4032. Bryan, H. A., and Dean, J. A. Extraction and flame-spectrophotometric determination of chromium, 822.

Bryant, L. M. See Main, R. K., 1041. Bryce, W. A. See Ryce, S. A., 1045, 2828 Buben, F., and Körbl, J. Complexometric titrations in pharmaceutical analysis. XVII. Determina-

tion of bismuth, 3892.

Körbl, J., and Přibil, R. Complexometric titra-tions (chelatometry). XXXI. Estimation of tions (chelatometry). calcium ethylenediaminetetra-acetate, 793.

Bubeniková, V. See Janák, J., 96.
Bucci, F., and Amormino, V. Method for the detection of dulcin (N-phenetylurea) in foodstuffs, 1372.

Bucek, W. See Roberts, H. R., 876. Buchanan, D. L. Desalting amino-acid solutions by displacement with piperidine, 1627.

Buchanan, J. G. See Baddiley, J., 1885. Büchi, J. Paper chromatography for the assay of medicaments, 2359. Analysis of

Büchner, M., and Gabsch, H.-C. hyaluronidase preparations, 3491.

Buck, W. L., and Swank, R. K. isoPropyldiphenyl as solvent in liquid scintillators, 4405.

Bückert, H., and Raffaele, I. [Seminar of the Centro Ricerche Spectrochimiche of the Associazione Italiana di Metallurgia.] Equipment for directreading analysis, 15.

Budanova, L. M., and Volodarskaya, R. S. Complexometric determination of magnesium in

aluminium alloys, 1458.

Budd, S. M. See Maxwell, J. M. R., 428. Budenz, R. See Bohnstedt, U., 2644, 2645, 2646. Budenz, R. See Bohnstedt, U., 2644, 2645, 2646. Buděšínský, B. Simple metallochromic indicators of the Eriochrome black T type, 3593. Complexometric titrations (chelatometry). XXXVII. Glycinenaphthol violet, a new chelatometric indicator, 3595.

- Mňouček, K., Jančik, F., and Kraus, E. Determination of methyl vinyl ketone, 2679.

- and Vanicková, E. Complexometric titrations in pharmaceutical analysis. XIV. determination of theophylline, theobromine, quinine, Analergin [antazoline] and Divascol [tolazoline], 225. Determination of cis-a-ethoxyβ-methoxymethylacrylonitrile, 2255. Determination of thiamine and mercaptothiamine, 2410.

See also Jančík, F., 246, 250, 2271.
 Budowski, P., and Bondi, A. Determination of vitamin A by conversion to anhydrovitamin A,

Büechl, H. See Barnard, A. J., jun., 3586. Buehler, A. A. See Felton, H. R., 4378. Buehler, N. H. See Dean, J. A., 836.

Buell, M. V., and Hansen, R. E. Spectrophotometry in the far ultra-violet, 2452.

Bukhman, S. P., and Zabotin, P. I. Polarography of indium, 4027.

Bukker, J. M. J. See Stolte, L. A. M., 3454. Bulušek, J. See Večeřa, M., 854, 3362. Bunce, J. L. Micro volumetric determination of uranium and plutonium, 3333.

Buras, E. M., jun., Cooper, A. S., and Cruz, M. D. Control analyses of solutions used in partial acetylation of cotton, 1917.

Burchfield, H. P., and Schuldt, P. H. Colorimetric method for the determination of 3:4-dichlorotetrahydrothiophen 1:1-dioxide (PRD), 2431. Pyridine - alkali reactions in analysis of pesticides containing active halogen atoms, 3935.

Burchinskaya, N. B. See Shchigol', M. B., 1686. Burdett, L. W. See Marple, T. L., 3407. Burdick, R. L. See Hancock, C. K., 1390.

Bürger, K. Microchemical identification of silver with 2: 4-dinitro-1-thiocyanatobenzene, 376. Direct micro-determination of oxygen in organic compounds, 1245.

Burger, M. See Kägi, J., 3442.

Buriánek. K. Influence of iron on the determination of oxygen in water by Winkler's method, 2003.

Burkhardt, C. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Advantages of a calculating device in direct-reading spectral analysis, 1435.

Burkhart, L. E. See Haughton, P. F., 3335. Burnet, M., and Desnuelle, P. Chromatographic determination of oxidised acids in fats, 1374.

Burnham, H. D., Hower, J., and Jones, L. C. X-ray emission spectrographic calibration applicable to varying compositions and sample forms,

Burns, R. E., and Barton, G. B. Determination of total plutonium in the presence of aluminium,

1199.

Burriel-Marti, F., Hernando Fernández, V., and Rodriguez Senas, J. Colorimetric method for the determination of phosphorus in steel, 1224,

and Ramírez-Muñoz, J. Study of double and triple interferences in flame photometry, 3219. Ramírez-Muños, J., and Asunción-Omarremen-

teria, M. C. Interferences of three elements in flame photometry. Chromium - cobalt - manganese system, 2884.

Ramírez-Muñoz, J., and Benito-Potous, Correction of interference effects in the photometric determination of sodium, potassium and

calcium in soil, 1714.

Ramirez-Muñoz, J., and Rexach-M. de Lizarduy, M. L. Indirect flame-photometric determination of sulphate ions, 2970. Some anomalies in the determination of sulphate ions by indirect flame photometry, 4081.

Burros, C. L. See Kelley, M. T., 1725.

Burroughs, R. N. See Murthy, V. M. R., 3914. Burrows, G. Gas - liquid chromatography, 1089. Burrows, W. D. See Radell, J., 4161. Burton, J. D., and Riley, J. P. Germanium in sea

water, 3922.

Buscaglia, S. See Rosenthal, H. L., 666. Busev, A. I. Complexometric determination of bismuth with 1-(2-pyridylazo)-2-naphthol as indicator, 462.

- Kiseleva, L. V., and Cherkesov, A. I. Complexometric determination of thorium with 1-(2pyridylazo)-2-naphthol as indicator, 3301.

— See also Cherkesov, A. I., 457.

Bush, M. T. Laboratory apparatus for the recovery of small amounts of solute from dilute aqueous solutions, 1729.

Bustamente, V. See Wunderly, C., 13.

Butaliu, O. See Medianu, B., 4117. Butler, C. P. See Haff, L. V., 3337.

Butler, J. R. Spectrographic determination of the

rare earths, 1149.

Butler, T. J. See Frankenthal, R. P., 2570.

Butte, W. A., jun. See Sasin, R., 2247.
Butterworth, E. C. Micro-determination of serum calcium using the EEL flame photometer, 3075.

Butylkin, L. P. See Kreimer, S. E., 3616.

Buu-Hoi, N. P., and Jacquignon, P. Chromatographic method for the separation of aromatic or heterocyclic polycyclic compounds, 2263. See also Muel, B., 3399.

Buydens, R., and Ledent, R. Determination of the oxidisability of natural waters, 3181.

Buzlanova, M. M. See Terent'ev, A. P., 566, 3783, and Obtemperanskaya, S. I., 2256.

Bÿnyaeva, M. K. See Flis, I. E., 2984.

Byrne, J. T. Fluorimetric uranium analyser, 1065.

Cabaud, P. G. See Athanail, G., 3830. Cabell, M. J. Separation by cation exchange of small quantities of calcium from the products of its neutron irradiation, 1127. Neutron activation analysis, 1441.

Cabib, E., and Leloir, L. F. Biosynthesis of tre-halose phosphate. [Determination of uridine halose phosphate. [De 5'-pyrophosphate], 4244.

Cabo Torres, J. Colorimetric method for evaluating digitalis leaves, 226.

Cadigan, J. B. See Gaensler, E. A., 616.

Cady, H. H., and Connick, R. E. Identification of ruthenium species in aqueous solution, 4143. Cahnmann, H. J. Partially deactivated silica gel

columns in chromatography. Chromatographic behaviour of benzo[a]pyrene, 891.

- and Karatsune, M. Determination of polycyclic

aromatic hydrocarbons in oysters collected in polluted water, 1004.

Cali, L. J., Loveland, J. W., and Partikian, D. G. Combustion - amperometric titration of traces of halogen in petroleum products, 1918.

Caligara, F. See Rooth, G., 3072.
Caligaris, L. S. de. See Martin, A., 1652.
Call, F. Micro-sampling method of determining gases and vapours, particularly halogenated hydrocarbons, in air, 272.

Callen, J. E. See Orr, C. H., 4320.

Calò, A., Mariani, A., and Marelli, O. M. Separation of some phenothiazine derivatives, 4294.

Călușaru, A. See Atanasiu, I., 4139. Calvo, J. M. See Moreno Calvo, J.

Calvo, R. See Putney, B. F., 4226. Cama, H. R. See Balasundaram, S., 267. Camber, B. Salicyloylhydrazine as a reagent for the characterisation and estimation of simple and steroidal aldehydes and ketones, 672. Spot testing, using a Cellophane membrane, 3563.

Cambridge Instrument Co., Ltd., and Jessop, G. Polarographs, 332.

Cameron, J. F. See Kannuna, M. M., 4160. Cameron, W. M., and Moore, T. B. Influence of chloride in the dichromate-value test, 2004.

Campanile, V. A. See White, T. T., 2660.
Campbell, C. C. See Gordon, S., 1398.
Campbell, D. J. See Helgren, P. F., 2762, and Theivagt, J. G., 2769.
Campbell, H., and Tuey, G. A. P. Solvents for ultra-

violet spectrophotometry: purification by cata-

lytic hydrogenation, 2093.

Campbell, J. A. See McLaughlan, J. M., 3534.

Campbell, J. E. See McFarren, E. F., 3896.

Campen, W. A. C., and Dumoulin, H. Determination of added cobalt in mixed feeding salts, 290. tion of added cobalt in mixed feeding salts, 290.

— See also Gerretsen, F. C., 4328.

Camuñas Puig, A., and Carrancio de la Plaza, H.

[Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Comparison of arc- and sparkexcitation in a special method of steel analysis,

Canada Department of Agriculture. Chemical methods for analysis of fruit and vegetable

products, 2393.

Candela, J. C. See Candela Candela, J.

Candela Candela, J. See Huerta Ortega, J. A., 3138.

Cannon, H. J. See Martin, J. M., jun., 3419.

Capindale, J. B., and Tomlin, D. H. Mass-spectro-

metric assay of elementary nitrogen, 2160.

Capitán García, F., and Parellada Bellod, R. Spectrophotometric determination of phenoxathiin in the ultra-violet, 583.

Cardenas, A. A. See Sass, S., 3026.

See Cioara, A., 398.

Cariadi, L. See Cioara, A., 398.
Carlier, J. Spectrophotometric determination of the percentage of oxygenation and of the oxygen content of dogs' blood and comparison with the manometric method, 932.

Carlson, A. S. See Greenspan, J., 3331. Carlson, O. T., and Alderin, B. Determination of mercury in paper-mill white-water, 163. See also Bethge, P. O., 161.

 Carlson, R. D. See Abraham, B. M., 4.
 Carlsson, C. G. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] A triggered 220-V a.c. spark for high precision in metal analysis, 1435.

Carlton, J. See O'Neal, F. B., 4184.
 Carpenter, J. H. Determination of calcium in natural waters, 3537.

Carpenter, K. J., Gotsis, A., and Hegsted, D. M. Total cholesterol in serum by a micro-method,

Carpov, A. See Figel, S., 1273, and Modreanu, F., 1114, 2908.

Carrancio de la Plaza, H. Spectrochemical determination of silicon in low or high alloy steels,

See also Camuñas Puig, A., 1435.
 Carranza Márquez, M. Analytical scheme for the hydrochloric acid group, 3962.
 Carroll, B., Tillem, H. B., and Freeman, E. S. Rouy

method for photo-electric polarimetry, 4375.

Carruthers, W., Johnstone, R. A. W., and Plimmer, J. R. Gas-liquid partition chromatography of mixtures of aryl methyl ethers, 4201.

Carson, J. F., and Wong, F. F. Separation and identification of aliphatic mercaptans by chromatography of the 2:4-dinitrophenyl sulphides, 3031.

Carson, W. N., jun., Vanderwater, J. W., and Gile, H. S. Coulometric determination of plutonium, 832.

See Baddiley, J., 1885.

Carswell, D. J. Separation of thorium and uranium

nitrates by anion exchange, 1167.

Cartan, F. O. See Booman, G. L., 2094.

Carter, J. A., and Weber, C. W. Complexing agent ammonium phosphate method for the analytical separation of uranium, 490.

 Cartoni, G. P. See Liberti, A., 2687, 4319.
 Carvalho, C. A. de, and Pogell, B. M. Skatole method for micro-determination of fructose and inulin, 2233.

Carvalho, R. A. G. de. Determination of titanium in presence of niobium by differential spectrophotometry, 4046. Inorganic paper chromatography. Variations of $R_{\rm F}$ with the concentration of HCl in mixtures (1:1) of *n*-butanol and HCl,

Casamento, P., and Ingles, O. G. Analysis of several Victorian brown coals, 155.

Casida, L. E. See Loy, R. G., 2750. Casswell, L. R. See Billman, J. H., 1889.

Casswell, L. R. See Billman, J. H., 1889.
Castiglioni, A. Complexometric determination of pyridine, 580.

Castle, J. N. See Helwig, H. L., 610. Castro, R., Allemand, J., and Poussardin, R. Error in the determination of nitrogen by the wet method in special steels, 2995.

Caswell, R. L. See Giang, P. A., 2819. Catch, J. R. Preparation and analysis of tracer compounds, 2071.

Caton, D. C. See Solomon, A. K., 2454.

Cats, H. See Hoeke, F., 3522.

Cattaneo, C. See Hirsch, A., 940. Cavagnol, J. C. See Feldman, D. H., 1339.

Cavallaro, L., Bighi, C., and Trabanelli, G. Separation and determination of Cu2+ - Ni2+ and Ni2+ -CrO42- by electrochromatography, 1773.

Cavallini, D., and Mondovi, B. Use of formaldehyde to avoid artefacts in the chromatographic deter-

mination of keto acids, 1610.

Cavina, G., and Tentori, L. Electrophoretic and chromatographic separation of urinary conjugated 17-oxosteroids soluble in n-butanol, 3477

Caws, A. C., and Foster, G. E. Purity of chloroform B.P., 2760.

Ceccaldi, M., Goldman, M., and Roth, E. quium Spectroscopicum Internationale VI. sterdam, 1956.] Absorption spectra of H2O -D₂O mixtures in the liquid state between 0.8 μ and 30 µ, 1435.

Cecil, R., and McPhee, J. R. Reaction of disulphides with silver nitrate. [Determination of disul-

phides], 208.

Cefelin, P., and Sittler, E. Quantitative determination of e-caprolactam in polymers by the Kjeldahl method, 917.

Čelechovský, J., and Holer, J. Photometric determination of fluorides, 2624

- Krejčí, E., and Krejčí, V. Photometric determination of hydrogen peroxide, 23.

- and Krejčí, V. Photometric study of the colour reaction between phenazone and ferric iron, 238.

and Maly, A. Oxidation of vitamin A, 1997. ncelj, J. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] The indirect flame-photometric determination of aluminium,

Centanni, F. A., and Morrison, T. J., jun. Fluorimetric determination of uranium, 1187

Center, E. J., Henry, W. M., and Householder, R. D. Determination of rare earths in thorium, 1150.

Central Electricity Authority and Potter, E. C. Apparatus in quantitative chemical determination processes, 1020. Detecting the presence of halogens in water, 2011.

Ceriotti, G. Staining of serum glycoproteins in electrophoretic strips. Modification in application of the Hotchkiss - McManus method,

and **Spandrio**, **L**. Colorimetric determination of tyrosine, 203. Method for the micro-determination of arginine by use of 8-hydroxyquinoline,

Cerletti, P., Ipata, P. L., and Siliprandi, N. Analysis of adenine and inosine nucleotides, 643.

Montesi, G., and Siliprandi, N. Ion-exchange resins in single columns and coupled columns. Separation of some amino acids and of riboflavine phosphates, 4254.

Čermák, V. Analysis of rare gases by mass spectrometer, 22.

Cerri, O., and Spialtini, A. Identification of bile acids by paper chromatography, 3486.

Chadde, F. E. See Helgren, P. F., 2762.

Chaigneau, M. Colour reaction of euchroic acid serving to identify mellitic acid, 1272. Separation of niobium and tantalum [by sublimation of their halides obtained by action of aluminium halides on their oxides], 1822.

Chalka. M. P. Analysis of refractory oxides for

halogens, 835.

— See also Zaidel', A. N., 448.

Chaikin, P. I., and Gumbar, K. K. Determining isotopes of radium in rocks and minerals, 392. Chaikoff, I. L. See Hernandez, H. H., 1960.

Chaimovitz, M. See Bergmann, F., 4235, and Dikstein, S., 4236.

Chakrabartty, M. M. See Majumdar, A. K., 535, 848, 1869, 2219, 4142.

Chakraborty, S. See Chanda, N. B., 4190.

Chakravarti, R. N., and Mitra, M. N. Preparation of Girard's reagent T, 768.

Challis, H. J. G., and Jones, J. T. Volumetric determination of tin in titanium and its alloys, 1804.

Chalmers, R. A., and Dick, D. M. The use of alkali hydroxides for the separation of the copper and arsenic groups, 1428.

- and Page, E. S. Reporting of chemical analyses of silicate rocks, 3663.

Champlin, J. B. F., and Dunning, H. N. Automatic wavelength marker and slit control for the Beckman DU spectral energy recording attachment, 2448

Chanda, N. B., and Chakraborty, S. Murexide test [for purines] in paper chromatography, 4190. Chang, C.-H., Chao, Y.-L., and Hsu, Y.-C. Com-

parison of results estimated by the guinea-pig method and the pigeon method in the bio-assay of commercial digitoxin, 227.

Chang, T .- C. L., and Karr, C., jun. Ultra-violet spectrophotometric determination of total pyridines and quinolines in low-temperature coal-tar distillates, 3410. Spectrophotometric determination of small quantities of some individual pyridine bases by successive extractions, 1275.

Chang, T.-H. See Wang, Y.-H., 594. Chang, Yi-Chung. Potentiometric titration of free amine and amine carbonate in carbonated monoethanolamine solutions, 4188.

Chang, Yu-Chung, Wang, C.-L., and Woo, S.-L. Comparison of three volumetric methods for the determination of Tibione [thiacetazone], 245. Chao, T. S. See Lieber, E., 3400.

Chao, Y.-L. See Chang, C.-H., 227.

Chapman, R. A. See Garrison, R. A., 2780.

Chappelle, E. W., and Luck. J. M. Decarboxylation of amino acids, proteins and peptides by Nbromosuccinimide, 2737.

See also Luck, J. M., 2737.

Chapyzhnikov, B. A. See Breger, A. Kh., 3699. Charles, R. G., and Johnston, W. D. X-ray diffraction powder data for some copper N-alkylsalicylaldimine chelates, 145.

Charlton, F. E. Automatic apparatus for the quantitative micro-determination of nitrogen, 1731.

Chase, D. L. See Heffelfinger, R. E., 1857.
Chateau, H., and Hervier, B. Volumetric microanalysis of iodide in a mixture of halides, 2204.

Chatten, L. G., and Levi, L. Infra-red study of the reaction of barbiturates with p-nitrobenzyl chloride, 3130.

See also Milne, J. B., 2381, and Pernarowski, M., 4189.

Chatterjee, A. K., and Mukherjee, S. Determination of ash by ion exchange. II. Estimation of ash

in clarified cane juice, 3512.

Chatterjee, K. K., and Ghosh, A. K. Analytical applications of Dutoit's thermovolumetry. Estimation of amino acids, 1315.

Chatteriee, N. N. See Moitra, A. K., 2287. Chatterii, K. K. Analytical applications of Dutoit's thermovolumetry. II. Analysis of zinc in brass,

Chauvin, R., and Lévêque, P. Impulse discriminator attached to a y-scintillation detector for activation analysis, 2472.

Determination of gold in refined

Chechneva, A. N. platinum, 378.

Chemical Specialties Manufacturers Association.

Method for determining volatile - non-volatile ratios of aerosol furmulation. Vacuum distillation method, 273.

Chemla, M., Separation of isotopes by chromato-

graphy and electrophoresis, 3203.

Chen, K. See Wang, Y.-H., 594.

Chen, S. L., and Lauer, K. J. H. Carbon determination in biological material with a persulphate oxidation method, 176.

Ch'eng, C.-Y. See Liang, S.-C., 501.
Cheng, K. L. Complexometric titration of copper and other metals in mixture. 1-(2-Pyridylazo)-2naphthol (dye) as indicator, 2116. Determination of traces of uranium with 1-(2-pyridylazo)-2naphthol, 4092. Redox behaviour of cobalt chelates of nitrilotriacetic acid, 4133.

See also Lott, P. F., 1520, 3968. Cheng, S.-H. See Kao, S.-S., 487. Cherbuliez, E. See Baudet, P., 3096.

Cherkesov, A. I., and Busev, A. I. Analytical use of certain dyestuffs containing hydroxyl groups. I. New highly sensitive and selective reactions

New highly sensitive and selection of antimony, 457.
 Chernavina, N. M. See Yakimets, E. M., 369.
 Chernetskaya, A. M. See Litvinenko, L. M., 1679, 3885.
 Chernobrov, S. M. Use of ion exchange in the analytical chemistry of metals, 1102.

Cherno-Ivanova, L. L. See Zamyshlyaeva, A. M.,

Chernova, A. A. See Khristianov, V. K., 3644.
Cheronis, N. D. Micro-identification of organic compounds, 3369.

- and **Zymaris**, **M.** C. Micro-determination of reducing sugars in blood by means of p-anisyl

tetrazolium blue, 2320. Cherrier, C.-M. See Société Anon. des Manufactures des Glaces et Produits Chimiques de Saint-

Gobain, Chauny et Cirey, 816.

Cherry, R. H., Foley, G. M., Badgett, C. O., Eanes, R. D., and Smith, H. R. Alarms and analysers

for nerve-gas vapours, 4376.

Cheshire, J. D. See Scott, R. P. W., 2440. Chesney, W. E. See Equipro Corporation, 1708. Chess, W. B., and Bernhart, D. N. Determination of small amounts of pyrophosphate in soluble orthophosphates, 1813. Ch'i, T.-Y. Polarography of uranium in phosphoric

acid, 4095.

Chiang, S.-P., and Freeman, S. Micro-method for the determination of salicylic acid in plasma, 620.

Chiao, T.-T., and Thompson, A. R. Densities and refractive indices for glycol-water solutions. Triethylene glycol, dipropylene glycol and hexylene glycol [2-methylpentane-2:4-diol], 1252.

Chiba, S. Application of ion-exchange resins to analysis. Determination of pyrazinamide

injection, 4296.

Chibnall, A. C., Haselbach, C., Mangan, J. L., and Rees, M. W. Studies on the amide and C-terminal residues in proteins. V. Estimation of asparagine and glutamine residues, 3465.

Mangan, J. L., and Rees, M. W. Studies on the amide and C-terminal residues in proteins. II. Determination of the ammonia nitrogen and amide nitrogen of various native protein preparations, 3465.

and Rees, M. W. Studies on the amide and Cterminal residues in proteins. I. The characterisation and determination of the C-terminal

residue, 3465.

and Spahr, P. F. Determination of the N-terminal residues in proteins with methoxy-carbonyl chloride [methyl chloroformate], 3466.

Chiccarelli, F. S., Woolford, M. H., jun., and Trombitas, R. W. Colorimetric determination of chlortetracycline hydrochloride in feed supplements, veterinary therapeutics and food preservatives, 1013.

Chien, J.-Y. See Wang, Y.-H., 594. Chiesa, L. See Sensi, P., 1340. Chirkov, S. K. Volumetric determination of fluorine in natural waters, 3182.

Chirnside, R. C. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Chemical problems in the electrical industry: the contribution of analysis as a research service,

Chistyakova, E. M. See Klyachko, Yu. A., 1863,

Chittum, J. W., Gustin, T. A., McGuire, R. L., and Sweeney, J. T. Separation of halogenated acetic and propionic acids by paper chromatography, 4182

Chlebovský, T. Influence of copper and lead on the bromatometric determination of antimony, 3684.

Chleck, D. J. See Ziegler, C. A., 1446.
 Chmutov, K. V., and Avgul', V. T. Automatic instruments for chromatographic analysis, 1402.

— See also Maslova, G. B., 357. Chou, Y.-Y., and Hsü, J.-C. Colorimetric determination of menadione [menaphthone] sodium bisulphite and its preparations, 254.

Chouteau, J. See Vigne, J. P., 2820.
Chovin, P. See Moureau, H., 2150.
Chowdhury, J. B. R. See Majumdar, A. K., 2181.
Christian, J. E. See Mantsavinos, R., 4191.
Christie, D. R. See Houff, W. H., 1568.
Christie, J. H. See MacIntyre, W. J., 2473.
Chuang, W.-T. See Kao, S.-S., 4016.
Chuiko, V. T. Concentrating traces of metals by co-precipitation. I, 2510.

Co-precipitation. 1, 2510.

— See also Mamenko, A. U., 1454.

Chukhlantsev, V. G. See Krŷlov, E. I., 1193.

Chung, Y.-H. See Sandler, S., 4177.

Chvapil, M., and Zahradnik, R. Polarographic estimation of proline and hydroxyproline in protein hydrolysates, 651.

Ciaccio, L. L., Missan, S. R., McMullen, W. H., and Grenfell, T. C. Non-aqueous titration of 1:4disubstituted piperazines, 1277.

See also Pazdera, H. J., 1327.

Ciavetta, L. See Liberti, A., 4131.
Cifka, J. See Ryba, O., 782.
Cihalik, J., and Šimek, J. Polarography in anhydrous acetic acid. I. Introduction, 1079.

— Šimek, J., and Růžička, J. Polarography in anhydrous acetic acid. II. Polarographic behaviour of thallium, cadmium, copper, uranium and palladium, 2142.

Cinková, O. See Jančík, F., 246, 250. Cinotti, G. A., Simone, G. de, and Magalini, S. Spectrophotometric method for the determination of cardiac glycosides. II. A spectrophotometric curve for digitoxin, acetyldigitoxin, lanatoside C and K-strophanthin, 228.

Cioara, A., and Cariadi, L. Polarographic determination of cadmium in red signal glass, 398

Ciranni, G., Giuliano, R., and Zifferero, M. Determination of caffeine in drugs (tea, coffee) by the method of isotopic dilution, 1369.

Cirilli, V. Estimation of uranium content in rocks, 825.

Cirla, E. See Salteri, F., 3441.

Cirlogan, C. See Németh, A., 120.

Citterio, C., and Mattei, F. Detection and determination of chlorpromazine (Largactil) in biological liquids, 3826.

Ciuhanda, G., and Giuran, V. Photometric determination of silver in the presence of copper, 3271. Claassen, A., and Bastings, L. Extraction of ferric chloride with isobutyl methyl ketone and amyl

acetate, 4116.

Clark, G. L. [National Conference on Instrumental Methods of Analysis. Chicago, 1957.] A third of a century of X-ray analysis in industry, 1725. Clark. L. J. Cobalt determination in soils and rocks

with 2-nitroso-1-naphthol, 4341.

Clark, R. E. D. o-Dithiols in analysis. V. The zinc complex of toluene-3: 4-dithiol as a reagent for arsenic and germanium, 1814; VI. Diacetyltoluene-3:4-dithiol as a coagulant, catalyst and precipitant for sulphur and metallic sulphides, 2073.

Clark, R. T. See Wood, D. F., 1486. Clarke, E. G. C. Microchemical identification of some antihistamine drugs, 971. Identification of

some antimalarial drugs, 4303.

Clarke, F. E. Indicator for chloride titrations, 1847. Clarke, W. E. Chemical analysis of cupola slags. I. Determination of alumina, 53. Advances in the analysis of cast iron and foundry materials,

and Rooney, R. C. Determination of aluminium in cast iron and ferrosilicon by the fluoride volu-

metric method, 1221.

and Shaw, W. B. Effect of chromium in the bismuthate method for the determination of

manganese in iron alloys, 110.

Clasen, H. Density balance. I. Construction and applications, 733; II. Simple measurement of the density of liquid and solid materials with fixed balance constant, 733.

Clasper, M., and Haslam, J. Analytical examination of mixtures of adipic, sebacic and phthalic acids,

140.

Clayton, R. F., Hardwick, W. H., Moreton-Smith, M., and Todd, R. Determination of uranium by solvent extraction. II. Separation of uranium-233 from irradiated thorium as the oxine complex in the presence of ethylenediaminetetra-acetic acid, 2194.

Clegg, L. F. L. See Taylor, P. B., 3518. Clemency, C. See Codell, M., 805. Clements, R. L. Device for measuring R_F values,

Clewlow, G., and Dixon, W. Evaluation of biscuit flour, 1984.

Clinch, J., and Guy, M. J. Extraction and absorptiometric determination of uranium as thio-

cyanate, 2193.

Cline, R. W., Simmons, R. E., and Rossmassler,
W. R. Determination of tervalent chromium in the presence of chromate, 4084.

Close, R. A. See Belcher, R., 2497, 2889, 3970. Cluett, M. L., and Yoe, J. H. Spectrophotometric determination of sub-microgram amounts of nickel in human blood, 935.

Cockbaine, D. R. See Barker, G. C., 1081.
Cocking, E. C. See Sims, A. P., 3677.
Codding, J. W., jun. An ionisation chamber for the study of plutonium hexafluoride, 3582.

Codell, M., and Norwitz, G. Conductimetric determination of small amounts of oxygen in titanium, 2945.

- Norwitz, G., and Clemency, C. Determination of sulphur in titanium and titanium alloys, 805.

Codina Vidal, J. M. Correction of the fluctuations of the arc in spectrographic determination by the method of addition, 744.

Cofield, R. E. Eddy current electrical conductivity measurement as an analysis for molybdenum in binary molybdenum - uranium alloys, 1500.

Cogbill, E. C., and Yoe, J. H. Spectrophotometric determination of boron with diaminochrysazin. diaminoanthrarufin and tribromoanthrarufin 4:5-diamino-1:8-. 4:8-diamino-1:5-. 1:5:(?)-tribromo-4:8- dihydroxyanthraquinone], 796.

Coggeshall, N. D. See Crable, G. F., 2854. Cogswell, H. W. See Nunez, L. J., 150. Cohen, E. See Wilcox, P. E., 2339.

Cohen, S. H., and Margrave, J. L. Reaction rates in the analytical determination of some inorganic

peroxides and superoxides, 784.

Colarusso, R. J., Schmall, M., Wollish, E. G., and Shafer, E. G. E. Photometric determination of iproniazid and related compounds, 2383.

Colas, A. See Prat, J., 1017.
Cole, L. J. See Main, R. K., 1041.
Coleman, H. J. See Thompson, C. J., 1284.
Coleman, O. J. See Strode, C. W., jun., 232.
Coles, M., and Roman, W. Estimating fibrinogen

in plasma, 2324.

Coll, H. Spectrophotometric determination of chloride ion, 2201.

See also West, P. W., 4329.

Collard, T. H., jun., and Liu, D. K. H. Polarographic analysis of cyanide zinc-plating baths using a simplified apparatus, 1464.

Collier, P. R. See Fish, V. B., 1908.
Collins, F. D. See Wheeldon, L. W., 196.
Collinson, S. See Griffiths, W. J., 631.

Colson, A. F. The ebullioscopic micro-determination of molecular weight. Micro form of the

Menzies - Wright ebulliometer, 2845. Combs, J. F. See Baker, W. J., 1725. Comerman, C., and Pavlovec, R. Gravimetric micro-determination of cadmium with 2-0hydroxyphenylbenzoxazole, 3640.

Compaan, H. adium, 2597. Colorimetric determination of van-

Conger, C. See Devor, A. W., 3445. Coninck, P. J. de, and Delacourt, J. Determination of foots in raw linseed oil, 266, 3064.

Conkin, R. A. See Gunther, F. A., 4373.
Conley, R. T. See Szymanski, H. A., 3217.
Connick, R. E. See Cady, H. H., 4143.
Conrad, D. Spectrochemical determination of ferric oxide and silicon dioxide in alumina, 55.

Consalvo, V. F., and Rynasiewicz, J. Chemical analysis of traces of platinum in 7% uranium zirconium, 1234.

See also Rynasiewicz, J., 1145. Conseiller, Y., and Courteix, J. High-frequency titrimetry. Titrations in anhydrous medium,

Constantinesco, D. G., and Oteleanu, R. Estimation of quercetin and rutin, 960.

Constantinescu, M., and Constantinescu, T. Titration of thiols by the "STAS" method; stability of ferric thiocyanate in various media, 4192.

Constantinescu, T. See Constantinescu, M., 4192. Conte, S. R., Smith, P. F., and Sciarrone, B. J. Nephelometric assay of spirits of peppermint and camphor, 1356.

Conu, I. See Frehden, O., 1783.
Cook, I. J. Y. See Mohun, A. F., 3102.
Cook, M. H. See Free, A. H., 623.
Cooke, F. See Shanahan, C. E. A., 4118.
Cooper, A. S. See Buras, E. M., jun., 1917.
Cooper, S. S. Test for stability of aqueous sodium

tetraphenylboron solutions, 2485. Cooper, W. C. See Barabas, S., 790, and Tomingas,

N., 3004. Cope, J. O. Magnetically operated needle valve, 4353. Copeland, L. E., and Bragg, R. H. Quantitative X-ray diffraction analysis, 2443.

Coppens, L., Bricteux, J., and Venter, J. metric determination of methane, 3774.

Coppock, J. B. M. See Bennett, R., 259. Corbett, J. A. Determination of manganese in

titanium, 2206. - and **Parkhurst**, **D. H.** Estimation of titanium in beach sands, 1161.

 See also Crouch, E. A. C., 2109.
 Corbridge, D. E. C., and Tromans, F. R. Identification of sodium phosphates with an X-ray focusing camera, 4063.

Corliss, J. M. Combustion micro-analysis of volatile

liquids, 1726.

Cormier, M., Jouan, P., and Dancoisne, G. Separation of sulphonamides by chromatography and

electrophoresis on paper, 1978.

Cornelissen, J., and Waterman, H. I. A method for the structure analysis of mineral-oil fractions based on viscosity, refractive index and density,

Cornman, W. R. Versene titration of thorium and

aluminium, 1165.

Correale, P., and Cortese, I. Colorimetric determination of 5-hydroxytryptamine in the gastrointestinal tract of the rat and chicken treated with reserpine, 1621.

Cortese, I. See Correale, P., 1621. Coryn, G., Speecke, A., and Hoste, J. Electronic drop counter for ion-exchange chromatography, 3209.

Cosgrove, J. F. See Morrison, G. H., 1506. Cosijn, A. H. M., and van der Molen, H. J. Successive polarographic determination of ter- and quinque-valent arsenic, 4065.

Cossy, A. See Bovay, E., 1012. Couch, J. R. See Murthy, V. M. R., 3914. Courtault, B., and Longuet, P. Accurate determination of aluminium in the raw materials and products of the cement industry, 2137.

Courteix, J. See Conseiller, Y., 2860. Courtier, G. B. Determination of radon and thoron in air, 1704.

Courtois, J. E., and Villiers-Huiban, H. Use of phytic acid for the determination of peptic activity in gastric juice, 1654. Coven, G. See Maresh, C., 2867

Covington, L. C. See Bennett, S. J., 2578. Cowan, J. C. See Frankel, E. N., 1999. Cox, B. C., Heim, H. C., and Poe, C. F. Paper chromatography and electrophoresis of selected therapeutic agents. I. Paper chromatography of antihistaminic agents, 4293.

Cox, R. See Maresh, C., 2867.
Cox, R. I. Separation, detection and estimation of C₍₂₁₎ 17: 20-dihydroxy-20-methylsteroids, 4269.
Coxon, R. V. See Kay, R. H., 314.
Coyle, C. F., and White, C. E. Fluorimetric determination of time with dayand 804.

mination of tin with flavanol, 804.

— See also **Hellmann**, **M.**, 4199. **Cozzi**, **D.**, and **Raspi**, **G.** Determination of vanadium by the spectrophotometric method in nonaqueous solution, 2960.

Crable, G. F., and Coggeshall, N. D. Application of total ionisation principles to mass-spectrometric analysis, 2865.

and Kerr, N. F. Reaction of oxygen in a mass spectrometer to form carbon monoxide, 812.

Crăciuneanu, R. See Popper, E., 1792. Craig, H. Isotopic standards for carbon and oxygen and correction factors for mass-spectrometric analysis of carbon dioxide, 424.

Craig, H. C. See Seaman, W., 1249.

Craik, J. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Analytical chemistry in industry, 2478.

Crain, C. M. See Magee, J. B., 3574.

Cramer, C. H. See Sanders, W. F., 524. Crane, R. K. Use of charcoal to separate mixtures of inorganic, ester and nucleotide phosphates,

Crawford, A., Palmer, J. G., and Wood, J. H. Determination of arsenic in microgram quantities

in coal and coke, 3683.

and Ward, D. H. Reduction of coal samples taken for determination of total moisture content, 1287.

Crawford, T. B. B., and Law, W. Method for the estimation of adrenaline and noradrenaline in urine, 4241.

Cremer, E., and Roselius, L. Gas chromatography.

Crepy, O. See Weinmann, S. H., 671.

Crestfield, A. M., and Allen, F. W. Advantages of matched high-capacity solvents in twodimensional chromatography, 2824.

Crimmin, W. R. C. Assessment of the stability data of metal chelate compounds with special reference

to analytical chemistry, 352.

Critchfield, F. E., and Johnson, J. B. Determination of aliphatic primary amino nitrogen compounds by reaction with pentane-2: 4-dione, 131. Titration of weak bases in strong salt solution, 4186.

Crokaert, R. See Schram, E., 655.

Crook, A., and Taylor, P. J. Simple mulling technique for the preparation of samples for infra-red spectroscopy, 3570.

Crook, E. M., and Rabin, B. R. Colorimetric determination of dipeptides by means of oxy-Colorimetric

genated cobalt complexes, 3463.

Cross, A. H. J., Gunn, A. H., and Stevens, S. G. E. Application of infra-red spectrophotometry to the examination of essential oils. I. Cineole in

lavender oil, 2713.

Crouch, E. A. C., Corbett, J. A., and Willis, H. H. Separation of alkali metals, 2109.

Crouthamel, C. E. Thiocyanate spectrophotometric determination of technetium, 1518.

Crow, W. D., and Greet, Y. M. A universal composition/anti-composition calculator for use in organic chemical analyses, 3210.

Crozier, A. Analysis of the higher-boiling fractions of petroleum, 149.

Cruz, M. D. See Buras, E. M., jun., 1917.

Csányi, L. J., and Solymosi, F. Analysis of peroxy compounds. I. Determination of the constitution of peroxy compounds, 1823; II. Induced reactions occurring in the analysis of H2O2 -H₂SO₄ systems, 1823; III. Cerimetric determination of hydrogen peroxide, peroxymonosulphuric acid (Caro's acid) and peroxydisulphuric acid in the presence of each other, 1823; IV. Cerimetric determination of hydrogen peroxide and peroxyacetic acid and of hydrogen peroxide and peroxyphosphoric acid when present together, 1823.

Culkin, F., and Riley, J. P. Spectrophotometric determination of gallium in rocks and minerals, 2916. Gallium in sea water, 3921.

Cullis, C. F., Dalziel, J. A. W., and Manton, J. E. Chromatographic analysis of tars, 909.

Cullum, D. C. Separation of sarcosine from methylaminediacetic acid, 656.

Cummings, W. G., and Redfearn, M. W. Instruments for measuring small quantities of sulphur dioxide in the atmosphere, 3225.

Currie, G. T See Ellis, R., 3020. Curry, A. S. Detection of β -bromallylbarbiturates

on paper chromatograms, 689.

Curry, D. R. Composite absorptiometry for the control laboratory. Calculating procedures and modification of the Spekker absorptiometer for use with interference filters, 2453.

Curry, R. P., and Mellon, M. G. Spectrophotometric determination of inorganic fluoride and of fluorine in organic compounds, 1203.

Curtis, E. L. See May, I., 1050.
 Curtis, R. C. Polarised platinum electrode for the determination of ascorbic acid in fruit products,

Curwen, H. C. Field method for the rapid estimation of the oxides of niobium and tantalum in black-sand concentrates, 811.

Cury, A. See Hutner, S. H., 2867. Cuta, F. Coulometric determinations, 2853.

Beranek, E., and Pisecký, J. Determination of the thermodynamic second dissociation constant of sulphurous acid from potentiometric and spectrophotometric measurements, 2187.

Cuttitta, F. Bibliography of the analytical chemistry of niobium and tantalum, Jan. 1935 to

June 1953, 1177.

Cyrot, J. Determination of the oxime-forming functions of degraded cellulose, 3057.

Czaja, A. T. Optical polarisation detection of apple pulp in preparations of various fruits, 2789. Czakow, J., and Radwan, Z. Spectrographic determination of traces of lithium in metallic calcium,

Czanderna, A. W., and Honig, J. M. Sensitive quartz beam microbalance, 293

Czerepko, K., and Sikorska-Tomicka, H. Investigation of the derivatives of caprolactam. I. Colour reactions of caprolactam, 170.

and Jaroszewicz, L. [Investigation of the derivatives of caprolactam.] III. Detection of

caprolactam in a polymer, 170.

— See also Sikorska-Tomicka, H., 2176.

Czike, K., and Fodor, P. Determination of the deuterium oxide content of water by means of freezing-point determination, 354.

D

Daess, A. M. See Khalifa, H., 3579. Dahlberg, A. C. See Kleyn, D. H., 3519. Dahmen, E. A. M. F. See Lau, C. la, 1435. D'Alessandro, B. See Brancaccio, A., 4267.
D'Alessandro, B. See Brancaccio, A., 4267.
Dallemand, J. E. See Frank, R. C., 1409.
Dalziel, J. A. W. See Cullis, C. F., 909.
Dam, H. See Hansen, P. W., 2748, Jorgensen, K. H., 1957, and Schilling, K., 3915, 3916.
Damick, A. See Hofer, L. J. E., 1049. Damodaran, V. Spectrophotometric determination of titanium with phenylfluorone, 1808. D'Amore, G., and Faraone, G. Amperometric titration of fluorine as thorium fluoride, 95. Dancoisne, G. See Cormier, M., 1978. Danielsson, H. Reversed-phase partition chromatography of some C27 steroids. Bile acids and steroids, 4263.

Danjo, K. See Harasawa, S., 1953. Dankova, N. M. See Rozina, A. M., 3805. Das. M. N. Determination of water in acetic acid

with acetic anhydride and aniline, 560.

Das. S., and Niyogy, S. C. Bis-(p-dimethylaminophenyl)amine as a reagent for the characterisation of fatty acids, 4246.

Dasgupta, S. See Nanavati, D. D., 3531.

Da Silva, F. See Silva, F. da. Dass, R. See Verma, M. R., 159.

Datsenko, O. V. Complexometric determination of calcium and magnesium in iron ore with the use of cationites, 2537.

Datta, J. See Bhattacharya, K. R., 1635.

Datta, S. K. Analytical aspects of some organic compounds. V. 2-Hydroxy-3-naphthoic acids: determination of cobalt, 528; VI. 2-Hydroxy-3naphthoic acids in the determination of thorium and zirconium, 1810. Organic reagents in in-organic analysis. VI. Determination of thorium and zirconium with phenylglycine o- and pcarboxylic acids, 3302.

- and Ghose, P. Organic reagents in inorganic analysis. V. Paper chromatography of some metal complexes of 2-hydroxy-1-nitroso-3-naph-

thoic acid, 2508.

Dauer, A. See Bachra, B. N., 3820. Daues, G. W., and Hamner, W. F. Determination of small amounts of vinyl cyanide in aqueous industrial streams, 715.

David, L. J. Determination of the acid value of linseed oil extracted from paint films, 171. Determination of phthalic anhydride in alkyd resin paints, 923.

Davidek, J., and Fragner, J. Colorimetric deter-

mination of rutin, 1967.

- and Manoušek, O. Polarographic determination of rutin in pharmaceutical preparations, 3883. and Sanda, V. Determination of dehydroascorbic

acid by paper chromatography, 1703.

See also Manoušek, O., 2249. Davidge, H. Laboratory water separator, 2835.

Davidson, C. F. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] The geochemical approach to prospecting for minerals,

Davidson, J. D., and Feigelson, P. Practical aspects of integral-sample liquid-scintillation counting,

Davies, A. G. See Abraham, M. H., 2676. Davies, G. R. [Congress. Modern Modern analytical chemistry in industry. St. Andrews, 1957.] Analytical research in the Department of Scientific and Industrial Research in relation to in-

dustry, 2478.

Davis, C. E., Hunt, R. H., and O'Neal, M. J., jun.

Determination of helium in the parts-per-

million range, 1113.

Davis, D. G., and Lingane, J. J. Electrolytically generated silver as a coulometric titrant. [Titration of oxalic acid, cerium^{III}, arsenic^{III} and vanadium^{IV}], 4007.

and vanadum^{1V}], 4007.

Davis, H. G. See Edgerton, J. H., 1153.

Davis, R. F. See Kleyn, D. H., 3519.

Davis, R. T., jun. See Frankenthal, R. P., 2570.

Dawson, C. R. See Stark, G. R., 2357.

Dawson, J., and Magee, R. J. Anion-exchange separation of tin and antimony, 3664. Determinant of artifactors of a stronger in and lead, 2687. mination of antimony, tin and lead, 3687.

Dawson, J. K., and Elliott, R. M. Thermogravimetry of some plutonium compounds, 93.

Day, R. A., jun. See Powers, R. M., 2125.
Daye, G. T., jun. See Wynne, E. S., 1637.
De, A. K. See Rulfs, C. L., 89.
Dean, J. A., and Beverly, M. L. Extraction and colorimetric determination of chromium with sym.-diphenylcarbazide, 3321.

Buehler, M. H., and Hardin, L. J. Comparison of spectrophotometric and visual titration for the determination of fluorine, 836.

— See also Bryan, H. A., 822.

Dean, R. F. A. Digestion rack for Kjeldahl flasks,

Debal, E., Lévy, R., and Moureu, H. Micro-determination of fluoride ions by indirect alkalimetry,

De Beer, Z. See Beer, Z. de. Debras, J. See Voinovitch, I. A., 2556.

Debro, J. R., Tarver, H., and Korner, A. Determination of serum albumin and globulin by a new method, 3098.

De Bruin, H. J. See Bruin, H. J. de.
Debska, W., and Speichert, H. Comparison of methods of determination of alkaloids in ergot,

De Caligaris, L. S. See Caligaris, L. S. de.

De Carvalho, C. A. See Carvalho, C. A. de. De Carvalho, R. A. Guedes. See Carvalho, R. A.

Guedes de. Decker, P. Chromatographic method for the detection of loose addition compounds and unstable

chemical substances and reactions, 346. De Clercq, M., and Truhaut, R. Nicotyrine and its determination by the König reaction, 3113.

De Coninck, P. J. See Coninck, P. J. de.

Dede, L. See Szarvas, P., 341.
Dedic, G. A. See Koch, O. G., 2715.
DeFord, D. D., and Bowers, R. C. [Industrial applications of analysis, control and instrumentation.] Electro-analysis and coulometric analysis,

and Braman, R. S. [National Conference on Instrumental Methods of Analysis. Chicago, 1957.] Neutron absorptiometry, 1725

See also Lucchesi, C. A., 401, and Miller, J. W.,

2438.

Degeorges, E., and Mugnier, P. Determination of the gamma isomer of hexachlorocyclohexane by measurement of the initial crystallisation point, 1722.

Degtyrenko, Ya. A. Determination of fluorine and boron in lead fluoroborate electrolytes by ion exchange, 438.

Dehara, M. See Sakaue, T., 593. Dehmel, P. See Gottschalk, G., 2482, 3584.

De Issaly, I. S. M. See Issaly, I. S. M. de. De Jonge, A. P. See Jonge, A. P. de.

Dejung, P. See Rentschler, H., 2395. De Keyser, W. L. Autodifferential dilatometer, 296.

Dekleva-Likar, A. See Lebez, D., 3856.
Delacourt, J. See Coninck, P. J. de, 266, 3064.
De la Maza, M. del P. See Pilar de la Maza, M. del.
Del Amo, C. G. See Garcia del Amo, C.

Delande, N. See Kofler, A., 951.

De la Plaza, H. C. See Carrancio de la Plaza, H.

Delga, J., and Storck, J. Complexometric determination of bismuth. Applications to the control of medicaments, 1979.

Delibrias, G. Determination of 14CO2 in a Geiger -

Müller counter, 59.

De Ligny, C. L. See Ligny, C. L. de.

Delimarskii, Yu. K., and Kalabalina, K. M. Polarographic studies in a basal solution of fused borax. The polarography of copper and cadmium,

De Lizarduy, M. L. Rexach-M. See Rexach-M. de Lizarduy, M. L.

Dellis, E. P. See McKennis, J., jun., 3028.
Delmon, G. See Babin, R., 676.
Del Pilar de la Maza, M. See Pilar de la Maza,

Del Pilar Villagrán, M. See Pilar Villagrán, M. del. Delsal, J.-L. Ultra-violet spectrophotometric determination of choline, 1619.

De Luca, R. See Brancaccio, A., 4267.

De Man, T. J. See Man, T. J. de.

DeMars, R. D., and Shain, I. Anodic-stripping voltammetry using the hanging-mercury-drop electrode, 1745.

Dembo, A. G., and Tikhvinskil, S. B. Method for determining the oxygen content of blood, 930.

Demole, E. Adsorption micro-chromatography on thin layers, 3197.

— See also Winter, M., 1754.

Dempsey, M. E. Micro-method for the determination of blood oxygen content, capacity and percentage saturation, 615.

Denisova, A. A. Quantitative determination of

amino acids by paper chromatography, 1623.

Densham, A. B., and Gough, G. The application of physical methods of analysis in the gas industry, 154. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Application of physical methods of analysis in the gas industry, 2478.

De Oliveira Meditsch, J. See Oliveira Meditsch,

Deprez, G. See Becart, M., 1435.

Deren, J., Haber, J., and Nedoma, J. Rapid method for the determination of calcium and magnesium in limestone and dolomite with Complexone III [EDTA], 41.

Derenovskil, V. I. See Tsimbler, M. E., 1479.

Der Heijde, H. B. van. See Heijde, H. B. van der. Derkosch, J., and Neuninger, H. Spectroscopic behaviour of copper alloys in externally ignited interrupted arcs, 2121.

Desai, M. W., and Murthy, T. K. S. Volumetric determination of uranium in presence of iron,

Desalbres, L., and Dubéarnes, R. Precipitation of resin acids by salts of hexamethylenediamine,

Desbaumes, F. See Deshusses, J., 991.

Deschamps, P. Electrolytic process for the concentration of iron in a solution, 2987.

Deschreider, A. R., and Frateur, J. Determination of bromine compounds in molasses from sugar factories, 2776.

DeSesa, M. A. See Allen, R. J., 2259. Nietzel, O. A., 1164, and Wessling, B. W., 497.
Desgrez, P., Haas, J., and Weinmann, S. H. Deter-

mination of formaldehydogenic steroids by diffusion and its physiopathological applications,

Deshusses, J., and Desbaumes, F. Paper-chromatographic investigation of vanillin and ethylvanillin in foodstuffs, 991.

Desikachar, H. S. R., Patwardhan, M. V., Sastry, L. V. L., Srinivasan, M., and Subrahmanyan, V. Detection of adulteration of ghee with vanaspati. II. Measurement of turbidity temperature with benzyl alcohol - glycerol as solvent, 1365.

De Simone, G. See Simone, G. de.

Desmond, F. B. See Brückner, J., 3435.

Desnuelle, P. See Burnet, M., 1374.

De Somer, P. See Vanderhaege, H., 1341.

Detenbeck, R. W. See Birk, M., 4387.

Dethier, M. See Hissel, J., 2421.

DeThomas, A. V., and Purdy, W. C. Permanganate arsenous oxide titration, 3974

Detmar, D. A., and van Aller, H. C. Determination of aluminium in copper alloys, 406.

Detoni, S., and Hadzi, D. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Infra-red spectra of some organic sulphur - oxygen compounds, 1435.

Dettner, H. W. Analytical method for the determination of iron in chromium-plating solutions,

Deutsch, P. A., and Kenzie, W. R. Method for the

analysis of ligninsulphonates, 1303.

Deutscher Normenausschuss. Examination of mineral oils. Determination of salt content, 1571. Determination of olefin and aromatic content by the fluorescent indicator adsorption process, 2278.

DeVenuto, F., Mulé, S. J., and Westphal, U. Per-extraction. Procedure to extract C₁₁ steroids

from tissues and blood, 3868.

Devlin, W. F. See McKinley, W. P., 2355.

Devor, A. W., Conger, C., and Gill, I. Resorcinol for identification and determination of monosaccharide groups. Report on a Gaucher spleen cerebroside, 3445. De Vries, M. J. W.

See Wiggers de Vries, M. J. Dewar, R. A., and Gunew, D. Glass strip collector for column chromatography, 310.

 See also McWilliam, I. G., 4364.
 De Wet, W. J., and Pretorius, V. Factors influencing the efficiency of gas - liquid partition chromato-graphy columns, 3206.

graphy columns, 3206.

Dey, A. K. See Banerji, S. K., 3256, Mukherji,
A. K., 3720, 4093, and Singh, E. J., 3260.

Deye, J. F. See Phillips, J. P., 1771.

Dezső, I. See Almássy, G., 1258, 2208.

Dhareshwar, B. V. See Krishnamurti, K., 4361.

Diamond, W. J. Water determination in oilcontaminated "Freon-12" [dichlorodifluoromethane] by infra-red spectrophotometry, 3376. Diaper, D. G. M., and Kuksis, A. Determination of

lead by dithizone in a single-phase water -

acetone system, 2572.

Dibeler, V. H., and Reese, R. M. [Industrial applications of analysis, control and instrumentation.] Mass spectrometry, 2867.

Dick, D. M. See Chalmers, R. A., 1428. Dickens, F., and Williamson, D. H. Determination of hydroxypyruvate and glycollaldehyde, 3446. Dickinson, W. E. Kjeldahl determination of nitrogen. Extension to nitro and nitrogen - nitrogen

single-bond compounds, 3363. Dicks, M. W., Rousseau, J. E., Eaton, H. D., Teichman, R., and Lucas, H. L. Single versus duplicate determinations for the estimation of vitamin A and tocopherol in calf livers, 3169.

Diczfalusy, E. Chemical determination of oestrogens in urine, 3474.

- and Lindvist, P. Isolation and estimation of "free" oestrogens in human placentae, 3863. Diebel, H., and Hanle, W. Photo-electric spectro-

meter for the examination of steels, 318. Diemair, W., Franzen, K., and Sieglitz, A. Determination of sorbic acid and its salts, 1256.

 See also Acker, L., 983.
 Dietrich, P., and Mercier, D. Chromatographic identification of pyrazine bases, 3039.

Dietrich, W. C., and Barringer, R. E. Determination of molybdenum in uranium - molybdenum alloys by monochromatic X-ray absorption, 1184.

Dignam, M. See Shaw, A. C., 915.

Dijk, C. P. van, and Slothouwer, F. M. Determination of micro quantities of certain metals by means of dithizone, 2882.

Dijk, G. J. van. See Keuning, K. J., 997.

Dikstein, S., Bergmann, F., and Chaimovitz, M. Quantitative determination of xanthines and uric acids in urine, 4236.

See also Bergmann, F., 4235.

Di Leo, E. F. P. See Solinas, P., 1645. Dimbat, M., and Stross, F. H. Micro-ebulliometer for determination of molecular weight, 1070.

Dimmling. T. A cylinder test for the quantitative determination of tetracycline and its derivatives in body fluids, 3082.

Dirian, G. See Botter, F., 3992.

Dirscherl, A. Micro-determination of sulphur according to Zimmermann, 1180.

Dische, M. R. See Dische, Z., 3444. Dische, Z., and Dische, M. R. The qualitative and quantitative determination of tetroses by two new specific colour reactions, 3444.

Ditges, D. See Koch, W., 3195.

Dixon, B. E., Hands, G. C., and Bartlett, A. F. F.

Field method for the rapid determination of hydrogen cyanide in air, 3175.

Dixon, H. D. See Glasgow, A. R., jun., 568. Dixon, W. See Clewlow, G., 1984. Dizdar, Z. I., Gal, O. S., and Rajnvajn, J. K. Influence of temperature on the extraction of uranyl nitrate with tributyl phosphate at varying concentrations of nitric acid, 830.

and **Obrenović**, **I. D.** Spectrophotometric determination of uranium in organic-solvent

solutions, 2618.

Djukanović, B. L. See Radak, B. B., 1780. Dmitrieva, V. N., and Bezuglyi, V. D. Polarographic determination of quinol in methyl methacrylate,

See also Bezuglÿi, V. D., 595, 3813.

Doadrio, A. See Montequi, R., 1116.
Doan, F. J., Larson, B. L., Winder, W. C., and
Leeder, J. G. Making acidity tests of fluid milk-products, 3155.

Dobáš, J. Paper chromatography of acid triphenylmethane dyes, 158.

Dobbs, A. G. R. See Hill, S., 2773.

Dobner, W. See Abresch, K., 3277.

Dobrick, L. A. Screening method for glucose of blood serum utilising glucose oxidase and an indophenol indicator, 4230.

Dobritskaya, Yu. I. Colorimetric determination of molybdenum in soils and plants, 3931.

Dobroborskaya, A. I. See Grinberg, A. A., 1216.

Dobrovici, M. See Sterescu, M., 708.

Dobrowolski, J., and Wyszyński, N. Application of the method of differences to the determination of sodium with a flame photometer, 25.

Dobrowsky, A. Mechanical smoking devices specially designed for the determination of carcinogenic substances in tobacco smoke, 4367.

Dobrynina, O. N., and Bogareva, K. G. Volumetric determination of nickel in catalyst powders, 4136.

Dočkalová, L. See Kessler, F. M., 4044. Dodgen, D. F. See Goldstein, S. W., 2340.

Dodson, E. See Seligson, D., 2318.

Doerfiel, K. Calculation of errors in analytical chemistry. I. Errors of measurement, 1425; II. Systematic errors, 1425.

See also Geyer, R., 2804. Döger, S. See Kauko, Y., 1489.

Dohlman, C.-H. Assaying small amounts of sulphur-35 in tissues, 181.

Doi, M. See Suzuki, Yukio, 1499.
Doležal, J. Amines in inorganic polarography.
V. Simultaneous determination of thallium, copper, lead and cadmium in indium, 57. Oscillopolarographic methods in chemical analysis,

and Novák, J. Amines in inorganic polarography. VI. Determination of cobalt in steel and ores, 2647. Analytical methods for metals and minerals. V. Polarographic determination of copper and bismuth in minerals and in iron, 3270.

— See also Beran, P., 847, 3005.

Dolnakova, I. É. See Yasnopol'skii, V. D., 83. Domange, L. Utilisation of complexones, 1426.

and Longuevalle, S. Analysis of Schleich's anaesthetic mixture by gas-liquid partition chromatography, 1970.
omanský, R. Physico-chemical methods in

Domanský, R. black-liquor analysis, 1932.

Dominguez, O. V. See Berliner, D. L., 1651. Donahoo, W. P. See Arthur, P., 1538, 1555.

Dono, T., Morinaga, K., Nomura, T., and Nakagawa, Polarographic determination of manganese in ferromanganese and manganese slag, 3736.

Donovan, G., Solomon, M., and Stáncescu, I. Separation of free alanine, glycine, histidine, arginine, lysine, ornithine and "fast arginine" from blood serum by means of paper electrophoresis, 2741.

Dontsov, Yu. P., and Striganov, A. R. Spectrographic determination of the isotopic composition

of heavy water, 355.

Dooper, R., and van der Valk, J. A. M. Determina-tion of "hard resins" in paint media, 922.

Doppler, G. See Ballezo, H., 2198. See Robertson, G. I., 2224. Dorfman, L. See Robertson, G. I., 2224 Doty, D. M. See Sliwinski, R. A., 3515.

Doubek, L. Photometric determination of nickel

with dimethylglyoxime, 112.

ougall, H. W. Observations on "crude fibre" Dougall, H. W. estimation by acid digestion, 3553.

Dougherty, M. H. See McNary, R. R., 1710. Dow, L. See Kaplan, C. M., 2346.

Downey, T. A. Determination of copper in nickel solutions, 788.

Downs, J. J., Geller, E., Lunan, K. D., and Mann L. T. Use of non-ionic detergent in paper electrophoresis of serum proteins, 3859.

Dows, D. A. Calibration of infra-red prism spectrometers, 3569.

Dowson, W. M. See Bailey, D., 3293.

Dozinel, C. M. Photometric determination of antimony in pure and electrolytic copper, 1817.

and Gill, H. Photometric determination of iron in pure and electrolytic copper, 1124.

Drabikowski, W. Diacetyl method for determining creatine and phosphocreatine, 4259.

Drabkin, D. L. See Gordy, E., 612. Draganić, I. G. See Draganić, Z. D., 878.

Draganić, Z. D., and Draganić, I. G. Spectrophotometric determination of microgram quantities of oxalic acid with copper - benzidine complex, 878.

Drahotská, B. See Grüner, K., 3647. Drako, O. F. See Babko, A. K., 485.

Dranitskaya, R. M., and Dremlyuk, R. L. 8-Amino-1-naphthalenesulphonic acid as a reagent for

sodium, 359. Dratz, A. F. Well-bottom container improves gamma-counting, 764.

Drefahl, G., and Geissler, A. Studies on stilbene. XIV. Analytical applications of 4-stilbenyl-nitrosohydroxylamine, "styrylcupferror," 3589. Drekopf, K., and Winzen, W. Gravimetric separa-tion of alkaline earths, 1126.

Dremlyuk, R. L. See Dranitskaya, R. M., 359.

Dresia, H., and Beckmann, R. Radiometric determination of potassium with a Geiger-Müller counter, 2520.

Dreskin, O. H. Prothrombin measurement by two-stage technique with haemolysed whole-blood thromboplastin, 3839.

Drew, R. G., and King, E. Determination of atmospheric mercury trapped in permanganate solutions: a modified method, 274.

Drexler, S. Infra-red quantitative analysis data. Determination of naphthalene in cracked 1methylnaphthalene, 3069.

Drey, R. E. A. Assay and identification of pyri-

methamine and its preparations, 972.

Drozdov, V. A. See Vil'borg, S. S., 1445.

Drujan, B. D. See Sourkes, T. L., 2319.

Drushel, H. V., and Miller, J. F. Anodic polarographic estimation of aliphatic sulphides in petroleum, 902. Polarographic estimation of thiophens and aromatic sulphides in petroleum,

Drzhevetskaya, I. A. Simplified volumetric method for the determination of lactic acid in blood, 626.

Dubéarnès, R. See Desalbres, L., 3925. Dubini, M. See Malatesta, P., 2928. Dubinina, I. F. See Klimova, V. A., 3766.

Dubouloz, P., Fondarai, J., and Marville, R. Application of the cuprous rubeanate reaction to the detection of oxidising agents, peroxides, quinones and haematin derivatives, 628.

Dubrovin, K. P. I. Fixed soil potassium: fixation and liberation processes, 724; II. Extracting solutions for determining available soil potassium, 724; III. Spectrophotometric determination of exchangeable potassium, sodium, magnesium, and calcium in soils, 724.

Duca, A., and Stanescu, D. Polarographic and photocolorimetric micro-determination of copper, lead, nickel, zinc, cobalt and manganese in soil,

1717.

Ducret, L. Separation and determination of traces of boron in silcion. II. New method for separation and determination of boron. Application to silicon, 1793.

and Seguin, P. Separation and determination of traces of boron in silicon. I. Chloroform extraction of tetraphenylarsonium fluoroborate, 1793. Dudzik, Z. Determination of ascorbic acid in the

presence of sodium hydrogen sulphite, 709. Duenn, T. Diphenylamine as an internal indicator

for diazotisation titrations, 770. Duerr, J. D. See Pappas, B. A., 4281. Duffy, W. E. See Goris, P., 1190.

Duggan, E. L., and Stevens, V. L. Universal titra-tion console, 299.

Duin. H. van. Chromatography by liquid - liquid partition and liquid - liquid interface adsorption, 3205.

Dumont, C. Application of Fujiwara's alkaline pyridine reaction to tertiary acetylenic halogenated alcohols, 1352.

Dumoulin, H. See Campen, W. A. C., 290. Dunbar, R. E., and Aaland, A. E. Organic chemical III. Semicarbazones as qualitative microscopy. organic derivatives of aldehydes and ketones,

and Knuteson, J. Organic chemical microscopy. Amine picrates in qualitative organic analyses, 883.

and Moore, C. C. Organic chemical microscopy. II. Anilides as qualitative organic derivatives of carboxylic acids, 1552.

Duncan, J. F., and Thomas, F. G. Radiometric titration of 10-7 to 10-5-gram amounts of transition metals, 1109.

See also Bradhurst, D. H., 823.

Dunkley, W. L. See Hawke, J. C., 1896.

Dunn, C. L. Determination of 2:3-p-dioxandithiol SS-bis-(OO-diethyl phosphorodithioate) [Delnav] [Hercules AC-528], 4350.

See also Gunther, F. A., 4351.

Dunning, F. N. See Champlin, J. B. F., 2448. Dunstone, E. A. See Forss, D. A., 3788.

Dunton, M. L. Paper-electrochromatographic separation of the platinum-group metals, 1870.

See also MacNevin, W. M., 1531. Dupuis, J. See Dupuis, T., 3630.

Dupuis, T., and Dupuis, J. Analysis of dolomitic rocks by simultaneous thermogravimetric determination of calcium and magnesium, 3630.

Dupuy, P., and Moreau, C. Siphon with variable capacity as a fraction collector for column chromatography, 1035.

Durand, M. See Paris, R., 683.

Durbetaki, A. J. Determination of α-epoxides containing a tertiary carbon atom via catalytic isomerisation with zinc bromide, 1251.

Durso, D. F., and Paulson, J. C. Chromatographic analysis of pulps utilising direct densitometry [estimation of monosaccharides], 3417.

DuRuisseau, J.-P. Depositors for paper chromato-

graphy, 3199. **Dušinský, G.** Polarography of 3:4-dihydroxy-αmethylaminoacetophenone (adrenalone), Polarographic determination of bromocholine (Kathesin), 236. Oxidimetric determination of N-2-diethylaminoethylphenothiazine (Diparcol) [diethazine], 2382.

and Gruntová, Z. Polarographic determination of some water-insoluble organic substances in

glacial acetic acid as solvent, 219.

and Tyllová, M. Determination of santonin in Artemisia maritima L., subspec. monogyna Gams, growing in Slovakia, 3881.

Tyllová, M., and Gruntová, Z. Polarography of cinnamaldehyde and its determination in cinnamon bark (Cortex cinnamomi), 230.

Duswalt, A. A., jun. See Brandt, W. W., 4104.

Dutt, N. K., and Sen Sarma, K. P. Diallyldithiocarbamidohydrazine [di(allylthiocarbamoyl)hydrazine] (Dalzin) as an analytical reagent: colorimetric determination of palladium, 4147.

Dutta, A. B. Alkalimetric method for accurate estimation of silver, 1125.

Dutta, R. L. Detection of cobalt by o-phenylenediamine, 526. Metal complexes of hydroxamic acids. I. Spectrophotometric determination of manganese with nicotino- and isonicotino-hydroxamic acids, 840.

Duval, C. Thermal stability of analytical standards. V, 339. Infra-red spectrographic study of amino acids in a drop of aqueous solution, 1312.

See also Servigne, Y., 1833.

Duvall, M. R. See Klotz, A. P., 2753.

Duvall, R. B., and Kiley, L. R. Infra-red quanti-tative analysis data. Determination of water in liquid bromine, 3069.

Dux, J. P., and Phifer, L. H. Determination of

xanthate sulphur in viscose, 1580.

Duyckaerts, G. See Moussebois, G., 4365, and Sauvenier, G., 431.

Dyke, G. V. See Knowles, G., 3180.

Dykes, F. W., Booman, G. L., Elliott, M. C., and Rein, J. E. Remote determination of fluoride in zirconium - uranium fuel processing solutions,

See also Shank, R. C., 2474.

Dýkhno, N. M. See Kazarnovskaya, L. I., 2602. Dýmov, A. M., and Shchelkunova, A. N. Colori-

metric method for the determination of magnesium in iron alloys, 1523.

Dzhagatspanyan, R. V. See Kupriyanov, S. E.,

Dzhaparidze, E. S., and Bershadskaya, O. D. Determination of silicon in ferroboron, 4035.

Dzyuba, N. P., and Shraiber, M. S. Quantitative determination of atropine-group alkaloids by titration in non-aqueous solvents, 3105.

See also Shkodin, A. M., 7.

Eaborn, C., Matsukawa, E., and Taylor, R. Measurement of tritium, 2102

Eales, L. See Turner, T. J., 1648. Eanes, R. D. See Cherry, R. H., 4376. Eardley, R. P. See Bennett, H., 4150. Earnshaw, M. R. Analysis for industry [methods]

for determining carbon dioxide], 799.

Easter, E. W. See Norris, M. V., 3895. Eaton, H. D. See Dicks, M. W., 3169.

Eberhard, R. See Fleury, P., 1320. Eberius, E., and Kempi, W. Determination of water in starch and starch products, 1360.

Eberle, A. R., and Lerner, M. W. Separation of uranium from thorium, bismuth and ores with tributyl phosphate. Spectrophotometric determination with 8-quinolinol [8-hydroxyquinoline], 491

Eberlein, W. R. Compact apparatus for ascending chromatography, 1734.

See also Bongiovanni, A. M., 2751

Eberly, P. E., jun. See Mair, B. J., 2703. Ebert, K. H., König, H., and Wänke, H. Method for the determination of very small amounts of uranium and its application to the analysis of stone meteorites, 4094.

Eby, H. M., and Klett, R. A. Conversion of refrac-

tive dispersions, 2062. Echo, M. W., and Morgan, T. D. Surface-ionisation mass spectrometer for production control, 1424. Eckelmann, W. R. See Volchok, H. L., 3433. Eckhard, S. Spectrochemical determination of

phosphorus in steel by the use of the phosphorus line at 3175 A. 3680.

— See also Koch, W., 1435.

Eddy, C. R. See White, J. W., jun., 3018.

Eddy, L. B. See Krol, A. J., 1556.

Edgerton, J. H., and Davis, H. G. Determination of microgram quantities of carbon by low-pressure combustion, 1153.

Edson, S. N. Colorimetric estimation of soil phosphorus using a stable dry-powder reductant, 2813. Edström, J.-E. Determination of organic compounds below the microgram range. Ribonucleic acid and its constituents, 3451.

Edwards, J. W., and Milner, G. W. C. Determination of cerium in bismuth-base alloys, 422.

— See also Milner, G. W. C., 1819, 4053.

Efremov, G. V., and Alekseeva, I. P. Co-precipita-

tion of tervalent thallium with quadrivalent manganese hydroxide, 4029. and Galibin, V. A. Colorimetric determination

of thallium, 2558.

Efremov, S. P. See Striganov, A. R., 1505.

Egami, F., and Takahashi, N. Sulphate microdetermination, 1829.

Eggertsen, F. T., and Groennings, S. Determination of five- to seven-carbon saturates by gas chromatography, 1914.

and Knight, H. S. Gas chromatography. Effect of type and amount of solvent on analysis of saturated hydrocarbons, 2280.

and Nelsen, F. M. Gas-chromatographic analysis of engine exhaust and atmosphere. Determination of C₂ to C₅ hydrocarbons, 4210. Egorova, L. G. See Kondrakhina, E. G., 3709.

Ehlers, J. G. [Infra-red quantitative analysis data.]
Determination of 2-ethyl-1-methylbenzene, 3ethyl-1-methylbenzene and 4-ethyl-1-methylbenzene, 3069.

Ehrenpreis, S., and Scheraga, H. A. Analysis for thrombin and the inactivation of fibrin monomer,

Ehrlich, R. See Shefner, A. M., 4260, and Telep. G., 4221.

Ehrmantraut, H. C. See Shefner, A. M., 4260. Eichelberger, L., and Miles, J. S. Preparation of tissues for chemical analyses, 3071.

Eichenberger, J. Detection and determination of spray residues in relation to food inspection, 2818.

Eichhoff, H. J. See Seidel, W., 1435. Eichhorn, F. See Rappaport, F., 2457. Eichhorn, N. Determination of the specific gravity of urine, 600.

Eigen, E., Blitz, M., and Gunsberg, E. Detection of some naturally occurring flavanone compounds on paper chromatograms, 284.

Eik-Nes, K. Determination of 17:21-dihydroxy-20-ketosteroids in blood plasma, 211.

Eisenbrand, J., Klauck, A., and Pfeil, D. Azo dyes as indicators for the detection of preservatives and related substances by biological tests, 706.

Eisenkolb, F., and Müller, K. Oxide determinations of sintered aluminium, 3285.

Eisenstadter, J. See Bobtelsky, M., 2529, 2897.
Eisner, M. See Mitchell, R. W., 2476.
Ek, J., and Hultman, E. Determination of aldosaccharides, 3379. Determination of glucose and laevulose [fructose] in body fluids, 4231.

Elbeih, I. I. M., and Abou-Elnaga, M. A. Scheme of analysis for the common cations, based on paper chromatography, 2076.

Ellenburg, J. Y. See Feldman, C., 1031, 2562. Ellicott, M. F. See Gaensler, E. A., 616.

Ellin, R. I., Kondritzer, A. A., and Rosenblatt, D. H. Purity of dimercaprol (BAL), 3141.

Elliott, H. C., jun. Micro-determination of hippuric

acid in urine, 1308.

Elliott, L. M. See Gunther, F. A., 4351.

Elliott, M. C. See Booman, G. L., 2094, Dykes, F. W., 1205, Maeck, W. J., 3718, and Paige, B. E., 88.

See Dawson, J. K., 93. Elliott, R. M.

Ellis, R., Gaddis, A. M., and Currie, G. T. Paper chromatography of 2:4-dinitrophenylhydrazones of saturated aliphatic aldehydes, 3020. See also Gaddis, A. M., 2409.

Ellman, G. L. Colorimetric method for determining low concentrations of mercaptans [thiols], 3792 Determination of epinephrine [adrenaline] and related compounds on paper chromatograms,

El-Sadr, M. M. See Barakat, M. Z., 638. Elvehjem, C. A. See Aronson, J. N., 201. Elvidge, D. A., and Proctor, K. A. Oxidised cellulose for the determination of strychnine in pharma-

ceutical preparations, 2756.

Elving, P. J., and Krivis, A. F. Polarographic behaviour of the uranyl - cupferron system, 824. — See also Bauer, H. H., 3234, and Rulfs, C. L., 89. Elwell, W. T., and Wood, D. F. Determination of

carbon in titanium and zirconium, 1800.

and Peake, D. M. Determination of oxygen in titanium and titanium alloys, based on the principle of chlorination, 1824.

Ely, R. S., Hughes, E. R., and Kelly, V. C. Adrenal corticosteroids. I. Estimation of plasma corticosterone and cortisol, 3481.

Emel'yanenko, I. V. See Gurevich, V. G., 1661.

Emi, K., and Hayakawa, T. Analytical studies on fluoride. III. Colorimetric determination of fluoride in animal tissue with the thorium -

neotherin reagent, 2726.

- Tôci, K., and Miyata, H. Syntheses and analytical studies of colour reagents. I. Behaviour of oo'-dihydroxyazo compounds towards calcium and magnesium, 1790; IV. Behaviour of o-hydroxy-o'-sulphoazo compounds towards magnesium, calcium and barium, 1790; V. Behaviour of o-trifluoromethyl-o'-hydroxyazo compounds towards alkaline-earth metals. thorium, aluminium, zirconium and uranium,

Tôei, K., and Tekemoto, N. Syntheses and analytical studies of colour reagents. II. Behaviour of o-carboxy-o'-hydroxyazo compounds

towards calcium, 1790.

- Tôei, K., and Wada, Tsuguyo. Syntheses and analytical studies of colour reagents. III. Behaviour of phthalein complexone reagents towards alkaline-earth ions, 1790.

Enagonio, D. See Glasgow, A. R., jun., 568.

Ender, G. See Gassner, K., 2391. Endo, T. See Hayashi, T., 4286.

Endo, Y., and Hattori, K. Determination of magnesia in basic slag, 383.

and Iwata, M. Determination of sulphur in iron and manganese ore by a combustion method followed by EDTA titration, 2603.

Tanihara, H., and Hattori, K. Determination of lime and magnesia in iron ore with EDTA, 387.

Engelbrecht, L. See Schröter, H. B., 958.
Engelbrecht, R. M. Micro-hydrogenation sample technique for volatile compounds, 1029.

England, L. J. See Steele, M. C., 454. Englander, S. W., and Epstein, H. T. Optical methods for measuring nucleoprotein and nucleic

acid concentrations, 206. Englis, D. T., Meerman, G., and Wollermann, L. A. Colorimetric determination of vanillin, 3904. Losses due to lead reagent in the analysis of vanilla extracts, 3905.

and Wollermann, L. A. Significance of pH in determination of vanillin by ultra-violet absorp-

tion, 139.

Enoki, T., and Morisaka, K. Dead-stop titration. I. Derivative polarographic titration, dead-stop titration and potentiometric polarography of acids and bases with two antimony electrodes. 1749; II. Results with two platinum electrodes, 1749; III.De ad-stop titration, derivative polarographic titration and potentiometric polarography of halides in argentimetry with two platinum or silver electrodes, 2982; IV. Derivative polarographic titration and potentiometric polarography of cyanide in argentimetry with two platinum or silver electrodes, 2982.

Ensgraber, A. Aid for obtaining equilibration of the paper with the vapour phase of the solvent in

chromatographic technique, 1733.

Epik, P. A., and Orochko, A. I. Determination of iodate and bromate in their mixtures, 4112 Epp, A. Infra-red spectra of 3-phenyl-2-thiohydan-

toins of amino acids, 949.

Epstein, E., Maddock, W. O., and Boyle, A. J.

Toluene-p-sulphonic acid spot-plate test for steroids, 954. Epstein, H. T. See Englander, S. W., 206.

Equipro Corporation. Determination of small amounts of silver in water, 1708.

Erbe, S. Determination of vitamin A in cod-liver oil, 1699. Colorimetric determination of vitamin A with various chlorohydrins, 3532.

Erdem, B. Complex ions in paper chromatography. Experiments with oxine in the mobile phase,

Erdey, L. Investigations with thermogravimetry, 1072. Analysis for industry [analytical applications of chemiluminescence], 1758. Analysis for industry, 3245. Titrations in the presence of chemiluminescent indicators, 3973.

Bányai, É., and Paulik, F. Precipitation exchange reactions in analytical chemistry.

Ion-exchange reactions, 1849.

- and Fleps, V. Determination of the phosphorus

pentoxide content of bauxite, 1168.

Gegus, E., and Kocsis, E. Spectroscopic determination of magnesium, zinc, vanadium and chromium content of pure aluminium using a hollow electrode, 54.

and Karsay, A. Indirect polarographic determination of calcium, 1128. Polarographic determination of ferric ions by ascorbic acid, 1519.

- Mázor, L., and Meisel, T. Argentimetric micro-determination of organic halogen compounds, after combustion, in the presence of Variamine blue as indicator, 3360.

 — and **Pólos, L.** Chelatometric determination of
- zinc, cadmium and lead ions with Variamine blue as redox indicator, 2547.

and Siposs, G. Determination of copper II ions by ascorbic acid, 1453.

and Svehla, G. Determination of calcium by flame-photometric titration, 385.

and **Szabadváry, F.** Determination of vanadium in pure aluminium, 3317. Variamine blue as a colorimetric reagent. III. Determination of vanadium and chromium, 464.

- and Vigh, K. Permanganometric determination of vanadium in ferrovanadium after reduction with sodium nitrite, 1174. Ferrometric deter-

mination of silver ions, 1455.

See also Jankovits, L., 3631, and Paulik, F., 4379. Erley, D. S. 2:2-Dimethoxypropane as a drying agent for preparation of infra-red samples, 1061. Ermakova, E. A. Quantitative determination of amino acids on completely ninhydrin-developed

chromatograms, 1952.

Ermolaeva, E. V., and Korobka, L. A. Polarographic determination of sodium monoxide plus potassium monoxide in various refractories, 3608. Polarographic determination of the oxides of aluminium, iron and titanium in aluminosilicate materials, 4025.

Erne, K. Toxicological detection and determination of pentachlorophenol, 3825. Detection and quantitative determination of parathion and p-nitrophenol in biological materials, 3936.

Ernst, A. See Runge, F., 2082. Ernst, G. See Müller, R., 1014.

Ershov, B. P., Pokrovskaya, V. L., Zarinskii, V. A., and Koshkin, D. I. Determination of phenol in phenol-containing material by high-frequency titration, 1904.

Erwin, W. R. See Menn, J. J., 2027. Escolar, L. G. See García Escolar, L.

Espersen, G. See Baggesgaard-Rasmussen, H., 248. Esposito, G. G., and Swann, M. H. Detection of

oiticica oil in coatings, 1583.
- See also Swann, M. H., 925, 1936.

Essen, A. I. See Filimonov, L. N., 2580, 3991. Estevan, J., and Serra, J. Semi-micro determination of chlorine in highly-chlorinated compounds, 115.

Estler, C. J. See Leusher, F., 1950. Étienne, A., and Léger, J. Semi-micro gravimetric determination of sulphur in organic substances by combustion, 3769.

Evans, C. D. See Frankel, E. N., 1999. Evans, E. D., Kenny, G. S., Meinschein, W. G., and Bray, E. E. Distribution of normal paraffins and separation of saturated hydrocarbons from recent. marine sediments, 1570.

Evans, J. V. See Mounib, M. S., 179.
Everest, D. A., and Martin, J. V. Determination of thorium in ores with APANS [thoron] - mesotartaric acid reagent after a shortened chromatographic separation, 2158

Everett, J. L. See Bergel, F., 182.

Evko, A. V. Determining magnesium in magnesium ferrosilicon alloy, 3629.

Evstratova, K. I. Determination of small quantities of glucose in the presence of large quantities of lactose, 3778.

Exley, D. The determination of 10 to 100-umg quantities of hexosamine, 630.

Eynon, L., Tate, A. E., Oldfield, J. F. T., and Gaskin, J. G. N. Lead error in the polarisation of British raw beet sugars, 258.

Eyring, E. J. See Pippen, E. L., 873. Ezhik, I. I., and Kovalev, I. A.

Determining concentration by spectral lines in different parts of the spectrum, 2838.

Faber, J. S. Assay of zinc stearate, 974.

Fachausschuss Mineralöl- u. Brennstoffnormung des FNM. Testing liquid combustible materials. Determination of content of water and impurities in heating and raw oils, 1916. Determination of content of non-settling water in heating oils, 1917.

Fadeeva, V. I. See Belyavskaya, T. A., 37. Faerman, G. P., and Veprik, Ya. M. Quantitative determination of p-hydroxyanilinoacetic acid,

Fagel, J. E., jun., Balis, E. W., and Bronk, L. B. Organometallic precipitates and briquetting for X-ray spectrography, 1064.

Fähnrich, H. Determination of foots in raw linseed

oil, 918. Fainberg, S. Yu., and Blyakhman, A. A. Photometric determination of aluminium in slags of copper and lead alloys with stilbazo, 408.

Blyakhman, A. A., and Filatova, L. N. Determining copper, lead and zinc in polymetallic ores and concentrates, 3269.

Blyakhman, A. A., and Stankova, S. M. Analysis of copper and lead slags, 32.

Faingol'd, S. G. Determination of the content of unsaturated hydrocarbons in crude benzene and benzene fractions, 3045.

Faircloth, R. L. See Barker, G. C., 3228, 3255. Faleev, P. V. See Proshkovich, M. F., 4082. Falkenhahn, W. V. Modified Gerber method for estimation of fat in dried milk, 1363.

Fankuchen, I. [Review of industrial applications of analysis, control and instrumentation.] X-ray diffraction, 2867.

Farády, L., and Jánosi, A. Photometric determination of nickel with rubeanic acid [dithio-oxamide], 113.

Farafonov, M. M. See Zarinskii, V. A., 2931. Farag, A. See Khalifa, H., 2178, 2190, and Kor-kisch, J., 3724.

Risen, J., 3724.

Farah, M. Y. See Khalafalla, S. E., 48.

Faraone, G. See D'Amore, G., 95., 74.

Farmer, H. S. See McDougal, D. B., 2351.

Farmilo, C. G. See Kum-Tatt, L., 1665, 2755.

Faracomb, F. J. See Williams, J. P., 2605.

Farrington, P. S. See Sawer, D. T., 1158.

Fasel, M. See Monnier, D., 938.

Fasella, P., Baglioni, C., and Turano, C. Volatile buffer for chromatography and electrophoresis,

Fasoli, A. See Salteri, F., 3441.
Fassel, V. A., and Gordon, W. A. Emission spectrometric determination of oxygen in titanium and titanium alloys, 2155. See also **Heidel, R. H.,** 2145.

Fauconnet, L., and Kreis, K. Analysis of extracts of digitalis by paper chromatography, 3499.

Faure, J. Determination of zinc in pigments. Volumetric determination with ferri - ferrocyanide

and redox indicator, 1133.

Fauth, F. See Hofer, L. J. E., 1049.

Fauth, M. I. See Stalcup, H., 928, and Williams, R. W., 884.

Feazel, C. E., and Verchot, E. A. Technique for infra-red spectroscopy to study the curing of epoxy resins, 1581

Febvre, M. P. Comparison of results of assay of a belladonna extract by volumetric methods and the modified Vitali - Morin method, 3107. reaction as a quantitative reaction, 3108.

Fecko, J. See Kalinowski, K., 2384

Fedorenko, N. V. See Pshenitsyn, N. K., 4144. Fedoroňko, M. Physico-chemical study of lphenylacetylcarbinol and methylbenzoylcarbinol. Polarographic behaviour, 3397

Fedorov, B. P., and Gorushkina, G. I. Simultaneous determination of thiophen or its homologues in mixtures with unsaturated hydrocarbons, 1909.

Fedorushin, V. N. See Mezentseva, N. M., 3745. Fedoseev, P. N., and Ignatenko, L. S. Vacuum method for the determination of carbon and hydrogen in organic substances, 3764.

Feeser, H. Determination of starch in paper, 4220. Fehér, F., and Sauer, K. H. Determination of carbon in purified sulphur, 81.

Feibush, A. M. See Greenhaus, H. L., 797.

Feichtinger, H. Methods and apparatus for analysing gases, 1022.

Feigelson, P. See Davidson, J. D., 4406.

Feigl, F., and Amaral, J. R. Preliminary test for nitrogen- and oxygen-containing groups in organic compounds, 3772. Detection of nitrogen through pyrolytic oxidation in organic spot-test analysis, 4159.

and Gentil, V. Spot tests based on Nencki synthesis of rhodanine (rhodanic acid), 1279.

Gentil, V., and Stark-Mayer, C. analysis of organic substances, 1240. Spot-test

and Goldstein, D. Spot tests for nitromethane, monochloro(bromo)acetic acid, dimethyl sul-phate, iodomethane and methylsulphuric acid, 880. Spot tests for nitromethane and nitroethane based on the Nef degradation, 879. Detection of primary nitroparaffins in spot analysis, 2683. Detection of perchlorate in spottest analysis, 3339

Goldstein, D., and Rosell, R. A. Detection of traces of chloride in fine chemicals, 2626.

and Rosell, R. A. Detection of organic oxidants in spot tests. Distinction between chloramine T and alkali hypochlorite, 3387.

and Silva, E. Fusion reactions with benzoyl peroxide in organic spot-test analysis, 549.

Feinberg, J. G., Rapson, H. D. C., and Taylor, M. P. Agar as specimen carrier in double-beam infra-red

spectroscopy, 4368.

Feinman, J. I. See Harrisson, J. W. E., 975.

Feinstein, H. I. Absorption spectra of the complexes of uranium^{VI} with some β -diketones, 1503. Feinstein, R. N. See Green, F. O., 1278.

Feldkirschner, H., and Krempl, H. Temporal synthesis and decomposition of the emission of light of individual lines in the spark and the alternating current arc and their significance in

spectral analysis, 745.

Feldman, C., and Ellenburg, J. Y. Two-piece centrifuge crucible for handling microchemical precipitates, 1031. Chemical isolation and spectrographic determination of certain rare earths in purified thorium and uranium preparations, 2562

Feldman, D. H., Kelsey, H. S., and Cavagnol, J. C. Fluorimetric determination of chlortetracycline,

Fel'dman, M. Ya. Determination of protein and non-protein nitrogen in blood by the use of

modified Conway dishes, 664. Felicetta, V. F. See Back, E., 1738.

Fels, I. G. Determination of hydroxyproline in liver, 3460.

Felton, H. R., and Buehler, A. A. High-temperature thermal-conductivity cell, 4378.

Fennell, T. R. F. W., Roberts, M. W., and Webb, J. R. Semi-micro determination of phosphorus in

fluorinated organic compounds, 1543.

Fenton, A. J., jun. See Furman, N. H., 333.

Ferber, K. H. See Seeber, R. E., 1891.

Ferenczy, Z., Almásy, A., and Szádeczky-Kardoss, G. Polarographic determination of magnesium, 1457.

Ferguson, M. B. See Katz, M., 4324. Ferguson, P. A. See Perrin, C. H., 2781. Ferguson, W. C., and Howard, H. E. Direct determination of isoparaffins and normal paraffins in olefin-free gasoline by mass spectrometer, 2702.

Ferguson, W. S. See Laitinen, H. A., 4385. Ferm, E. A. R. See Oldfield, J. H., 2138. Fernández, V. H. See Hernando Fernández, V.

Fernandez Segura, H., Garmendia, A. A., and Pella, E. L. Determination of small amounts of germanium, 2152.

Ferrara, L. Stationary there rotary Warburg apparatus, 298 Stationary thermobarometer for

Ferrett, D. J., Milner, G. W. C., Shalgosky, H. I., and Slee, L. J. Comparative study of three recently developed polarographs, 1073. See also Smales, A. A., 2478

Ferrier, R. J. See Aspinall, G. O., 862. Ferro, P. V., and Ham, A. B. Spectrophotometric method for the determination of calcium, 3427. Fesenko, N. G. Complexometric determination of iron in ores and agglomerates, 3341.

Feuer, G. See Barna, S., 2326.
Fibranz, L., Blake, M. I., and Miller, C. E. Colorimetric determination of thymol in thyme oil, 3807. Fiebig, E. C., and Siegel, H. Water-curtain enclosure

for spraying paper chromatograms, 2041. Fiechter, A., and Vetsch, U. Determination of water in the cell material of Saccharomyces cerevisiae by the Karl Fischer method, 3548.

Fiehman, J. Gas indicator, 2847.

Field, K., and Laws, E. Q. Determination of dime-fox residues in hops, 2026.

Fiers, W., and Stockx, J. Precipitating reagent for ribonucleic acid for the determination of ribonuclease, 1326.

Figurovskii, N. A., and Bashilova, V. M. Determination of the composition of binary pharmaceutical mixtures by fusion temperatures, 1680.

Fijolka, P., Lenz, I., and Runge, F. Analytical methods for determining carboxyl groups in polyesters, 596.

Fikhtengol'ts, V. S., and Kozlova, N. P. Determining nickel carbonyl in air, 2001.

Filatov. P. G. Determining iron in transmission oils, 151.

Filatova, L. N. See Fainberg, S. Yu., 3269.
Filimonov, L. N., and Essen, A. I. Quantitative spectrochemical determination of impurities in binary brasses, 3991.

Essen, A. I., and Zakharova, Z. A. Spectrographic determination of impurities in titanium,

Filinov, F. M. See Grinberg, A. A., 488.

Filipi, J. See Marka, M., 2296.
Fill, M. A. See Stock, J. T., 3224.
Finholt, P., and Hopp, G. Oxidation of fats in emulsions. I. Determination of the peroxide value in emulsions, 3909.

Finkel'shtein. D. N. Turbidimetric determination of small amounts of xanthate and carbon di-

sulphide, 3032.

and Kryuchkova, G. N. Photometric determina-tion of arsenic as blue molybdoarsenic acid, 453. Finkelstein, M., and Goldberg, S. Qualitative and quantitative estimation of pregnane-3a: 17a: 20atriol-11-one in urine, and its significance in

adrenal disturbances, 1653. Fin'ko, D. I. Quantitative determination of bile acids and their content in blood in Botkin's

disease, 639.

Finnegan, J. J. See Mellichamp, J. W., 3213. Finnie, T. M., and Yallop, H. J. Diphenylamine and

related compounds for spot-tests for nitrate and nitramine explosives, 1586. Fintić, V. See Vukčević-Kovačević, V., 3311.

Fioletova, A. F. Luminescence determination of uranium in solutions, 2977.

Fiorenza, A., and Lachin, M. Determination of the effective width" of lines in the analysis [spectrographic] of powdered substances, 2840.

Fischbach E., C. E., and Lopez Pérez, C. A. Deter-

mination of lipid phosphorus, 948.

Fischer, F. G., and Bohn, H. Determination of spermine, spermidine and other biological amines after paper-electrophoretic separation, and their proportions in animal organs, 1951.

Fischer, J., and Schmidt, W. Carbon in non-ferrous V. Carbon content in titanium and

titanium alloys, 442.

— See also Kögler, H., 738.

Fischer, R., and Auer, H. Determination of ethanol content of tinctures and spirits by the critical solution temperature, 2770.

Fischer, V. See Sass, S., 890.

Fischer, W. A., and Wahlster, M. Influence of particle size of separated silicates on the photometric determination of silicon in iron, 1522.

Fischl, J. See Rappayort, F., 2457. Fisel, S., Modreanu, F., and Carpov, A. chromatography of isothiocyanates, 1273. Paper

 See also Modreanu, F., 1114, 2908.
 Fish, V. B., and Collier, P. R. Semi-micro Kjeldahl procedures for pyridinium halide and oxyhalide salts, 1908.

Fisher, D. J. Chronopotentiometric analysis, 1086. See also Kelley, M. T., 1725, 3577.

Fitzek, J., and Stegemann, H. Analysis of lung dusts. II. Separation and determination of iron, aluminium, titanium, calcium, magnesium and phosphate in dust samples, 2515.

Fitzpatrick, J. D. See Ish-Shalom, M., 2266. Flaschenträger, B., and Kamel, B. S. Chromato-

graphic detection of furan-2:5-dicarboxylic acid in human urine, 944.

- Abdel-Wahhab, S. M., and Habib-Labib, G. Continuous fractional micro-sublimation in a divided or continuous sublimation tube, 1401.

Flaschka, H. Ethylenediaminetetra-acetic acid as

a masking agent in analytical chemistry, 2870.

- and Barakat, M. F. Complex displacement reactions in polarographic analysis. II. Amperometric titration of thorium, 446.

Barnard, A. J., jun., and Broad, W. C. EDTA titration: Applications. I, 2492.

and Hochenegger, M. A coulometric method for the determination of double bonds in small amounts of organic substances, 1250.

and **Holasek**, **A**. Complexometric determination of potassium in blood serum, 1942.

and Khalafalla, S. Theory of visual end-point

determination in complexometric titrations, 344. Khalafalla, S., and Sadek, F. Complex chemical displacement reactions in polarographic analysis. Theory and determination of thorium in pure solution, 445.

and Soliman, A. Triethylenetetramine (trien) as an analytical reagent. I. General, theory and the photometric titration of pure copper solutions, 2115; II. Photometric titrations of copper in the presence of other metals, 2522.

— See also Barnard, A. J., jun., 1432, 2491, 3249. Flatow, R. See Bruckner, G., 1985. Flavian, N. See Thouvenot, J., 3849. Fleischer, K. D., Southworth, B. C., Hodecker, J. H., and Tuckerman, M. M. Determination of phosphorus in organic compounds. Micro- and semimicro method, 2226.

— See also Southworth, B. C., 4162. Fleischman, A. I. See Haas, G. J., 2791.

Fleps, V. See Erdey, L., 1168.
Fletcher, A. N. Filtration apparatus for organic

gravimetric analysis, 1030. Fletcher, K. Fractionation of urinary iodine. I. Analysis, 609.

Fletcher, N. W., and Wardle, R. Determination of bismuth in lead and lead alloys, 1818. Deter-

mination of tellurium in lead and lead alloys, 1834. Fleury, P., and Eberhard, R. Weight determination

of proteins by thermocoagulation, 1320.

See also The, T. P., 2322.

Flickinger, L. C., Polley, E. W., and Galletta, F. A. Spectrochemical determination of lead in steel, 1524. Direct-reading analysis of steel solutions using a reservoir-cupped centre-post electrode.

Flikkema, D. S., and Schablaske, R. V. X-ray spectrometry for determination of plutonium in

solution, 2622.

Flis, I. E., and Bynyaeva, M. K. Determination of chlorine dioxide in solution, 2984.

Floberg, S., and Fursey, A. Mass-spectrographic identification of impurities in aluminium, 4022. Florenskii, K. P. Apparatus for micro-analysis of inert gases, 737.

Florian, G. See Hanssen, E., 992.
Flotlow, H. E. See Abraham, B. M., 4.
Flyantikova, G. V. See Nazarenko, V. A., 2954.
Fock, W. Determination of xanthate in viscose, 4218.

Födisch, D. See Schaack, W., 1937. Fodor, P. See Czike, K., 354. Fogel'son, E. I. Photometric determination of silicon in ethyl silicate, 3034.

Foley, G. M. See Cherry, R. H., 4376. Foley, W. T. Silver and thallium oxide coulometer, 4396.

Follpracht, K. See Kšír, O., 3700. Folting, K. See Baggesgaard-Rasmussen, H., 4292. Fomina, M. P. Paper chromatography for hydrolysates of deoxyribonucleic acid, 644.

Fondarai, J. See Dubouloz, P., 628, and Vigne, J. P., 730, 731, 2820.
 Fontán-Candela, J. L. Differentiating saponins,

4338

Forbes, J. W. See Boaz, H. E., 2842. Ford, L. A. See Hayden, A. L., 4276. Forell, H. von. See Stark, L., 1354. Foreman, J. K. See Ockenden, H. M., 489. Formusa, K. M., Benerito, R. R., Singleton, W. S.,

and White, J. L. Quantitative determination of serum proteins by paper electrophoresis. Dyeing method, 1638.

Fornwalt, D. E. Flame-spectrophotometric determination of nickel and boron in plating solutions,

Forss, D. A., and Dunstone, E. A. Detection of carbonyl compounds in benzene, 3788.

Forsyth, G. T. Polarographic determination of cadmium and cyanide in alkaline cadmiumplating baths, 1465.

Fort, R. Direct determination of oxygen in the elementary analysis of organic substances. [1], 3010; [II], 2662.

Foster, D. H., and Marsh, G. H. Separation and estimation of sugars in cane products, 3511.

Foster, G. E. See Caws, A. C., 2760. Fouarge, J. Separation of alkaline earths by

chromatography on a cellulose column, 4009. - and Fuger, J. Chromatographic separation of

alkali metals, alkaline earths and rare earths,

Fouassin, A. Determination of alginates, carboxymethylcelluloses and other thickening agents in milk derivatives and mayonnaise, 3521.

Fournier, R. M., and Person, M. Colorimetric micro-determination of chloropicrin in air, 275. Fowler, K. T., and Hugh-Jones, P. Mass spectrometry applied to clinical practice and research, 335.

Frad, W. A., and Herold, P. G. Quantitative estimation of graphite in refractory carbon

estimation of graphite in retractory carbon deposits by X-ray technique, 2564.

Fragner, J. See Davidek, J., 1967.

Frampton, V. L. See King, W. H., 2425.

Franc, J. Chromatography of aromatic isomers.

VII. Separation of some mono- and di-carboxylic acids, 2692; VIII. Separation of monohydric phenols, 3395.

Francois, C. A. Spectrophotometric determination of submilligram quantities of uranium, 1840.

Franěk, R., and Mastner, J. Apparatus for automatic evaluation of chromatograms and electropherograms, 2442.

Frank, R. C., Dallemand, J. E., and Fry, D. L. Statistical study on the homogeneity of zinc-base spectrographic standards, 1409.

Frankel, D. M., and Johnson, C. E. [Infra-red quantitative analysis data.] Determination of p-xylene, m-xylene and o-xylene in xylene

mixtures, 3069.
Frankel, E. N., Evans, C. D., and Cowan, J. C. Determination of tocopherol in oxidised fats, 1999. Frankenthal, R. P., Butler, T. J., and Davis, R. T.,

jun. Coulometric reduction of oxides on tinplate, 2570.

Franzen, K. See Diemair, W., 1256.
Fraser, J. G., and Pross, A. W. Determination of polystyrene in oils, alkyds and epoxy resin esters by infra-red spectrophotometry, 599.

Fraser, J. R., and Holmes, D. C. Proximate analysis of wheat-flour carbohydrates. III. Estimation of the hemicellulose fraction, 3151.

Frateur, J. See Deschreider, A. R., 2776. Fratkin, Z. G. See Zaidel', A. N., 1504.

Frattini, J. F. Total fractionation of blood proteins, 2744. Turbidimetric method for the Turbidimetric method for the determination of y-globulin, 2746.

Frazer, J. W., Schoenfelder, C. W., and Tromp, R. L. Determination of lithium hydride and lithium hydroxide in commercial-grade lithium hydride,

Frazier, R. G. See Gerlach, J. L., 4228. Frea, E. See Tappi, G., 4285.

Frederickson, D. S., and Ono, K. Assay of 14CO₂ in expired air using the liquid scintillation counter, 3423.

Free, A. H., Adams, E. C., Kercher, M. L., Free, H. M., and Cook, M. H. Test for urine glucose, 623.

Rupe, C. O., and Metzler, I. Colorimetric test for proteinuria, 1602

Free, H. M. See Free, A. H., 623.
Freegarde, M. Determination of metals by differential polarimetry, 21.

Freeland, M. Q., and Fritz, J. S. High-precision spectrophotometric analysis, 1436. Direct titration of sulphate, 1495.

Freeman, E. S. See Carroll, B., 4375.

Freeman, L., Posthuma, R., Gordon, Lily, and Marx,

W. Determination of tissue heparin, 640.

Freeman, N. K., Lindgren, F. T., Ng, Y. C., and Nichols, A. V. Serum lipid analysis by chromatography and infra-red spectrophotometry, 646.

Freeman, S. See Chiang, S.-P., 620.

Frehden, O., and Conu, I. Determination of Cu⁺ in the presence of Cu²⁺, H⁺ and NH₄⁺ and various unsaturated organic substances for the control of solutions of catalysts in the manufacture of vinylacetylene by dimerisation of acetylene, 1783.

Frei, E. H., Treves, D., and Eisenberg, H. Rotation viscometer for the study of low-viscosity liquids at low and intermediate rates of shear, 1736.

Freier, E. F. See Glick, D., 180.
Freiling, E. C. See Pascual, J., 2147.
Freiser, H. See McKaveney, J. P., 2958, and Morrison, G. H., 2867.
Freiker, See Weltersunder, A. 1970.

 Frelek, Z. See Waksmundzki, A., 1270.
 Fremlin, J. H., Hardwick, J. L., and Suthers, J. Measurement of small quantities of fluoride with fluorine-18, 2625.

French, D. See Thoma, J. A., 1253.
French, D. I., and Gibson, M. R. Two techniques

for paper chromatography, 308.

French, J. R. See Young, J. P., 2584.

Frenkel', R. I. See Baev, F. K., 2972.

Freund, H., and Holbrook, W. F. Differential spectrophotometric determination of zirconium in presence of hafnium, 2949.

Freyschuss, S. K. L. See Bethge, P. O., 161. Frick, C., and Friedrichlauer, K. Spectrophotometric determination of trace and accompanying

elements in pig iron, 521.

Fridman, I. D. Losses in assaying silver and gold, with radioactive isotopes as tracers, 4008.

Fridovich, I., and Handler, P. Colorimetric assay for reaction of sulphydryl groups with organic

mercurials, 118.

Friedel, R. A. Quantitative ultra-violet vapour spectrophotometry, 17.

- and Queiser, J. A. Quantitati vapour spectra, 1062. Friedrich, K. See Pfeil, E., 2513. Friedrich, K. See Sekerka, B., 2827. Friedrichlauer, K. See Frick, C., 521. Quantitative infra-red

Frierson, W. J., Rearic, D. A., and Yoe, J. H. Separation by paper chromatography and spectrophotometric determination of trace amounts of cobalt, nickel, copper and zinc, 3002.

Fries, J. See Holasek, A., 1376.

Fries, R. J. See Sullivan, L. J., 899.

Frisone, G. J. See Gunther, F. A., 2028, and Rosenthal, I., 1396, 1723.

Frisque, A. J. Internally standardised general spectrographic method, 1052.

Fritz, J. S., and Bradford, E. C. Detection of thorium and uranium, 4052.

Moye, A. J., and Richard, M. J. Titration of nitro-aromatic amines as acids, 1260.

Oliver, R. T., and Pietrzyk, D. J. Chelometric titrations using an azoarsonic acid indicator,

See also Freeland, M. Q., 1436, 1495.

Frodyma, M. M. See Zeitlin, H., 4354.

Froesch, E. R., Reardon, J. B., and Renold, A. E. Determination of inulin in blood and urine using glucose oxidase for the removal of interfering glucose, 3088.

Frugoni, J. A. C. Detection of sulphate ions on paper chromatograms, 2967.

See also Marini-Bettolo, G. B., 4381.

Frush, H. L. See Isbell, H. S., 870.

Fry, D. L. See Frank, R. C., 1409.

Fryxell, R. E. Determination of very small amounts of carbon in metals, 2148.

Fudge, A. J., and Hutton, G. C. Determination of tributyl phosphate in kerosine solutions, 1924.

Fuerst, R., and Skellenger, W. M. Neurospora plate method for testing antimetabolites, 3884. Fuger, J. See Fouarge, J., 2888.

Fuhrmann, H., and Galster, H. Measurement of traces of gas with automatic analytical apparatus. 297.

Fujimoto, M. Micro-analysis with the aid of ion-exchange resins. XII. Detection of millimicrogram amounts of nickel with dithio-oxamide, 1527: XIII. Detection of millimicrogram amounts of cobalt with nitroso-R salt, 1527; XIV. Detection of millimicrogram amounts of iron with 2:2'-dipyridyl, 1527.

Fujinaga, T. See Ishibashi, Masayoshi, 3236, 4391.

Fujioka, S. See Masui, M., 3386.

Fujishiro, Y. See Sakai, S., 2445.

Fujita. Y. Determination of metals with potassium ferrocyanide. X. Determination of molyb-denum, 2975; XI. Determination of cerium,

Fujiyo, T. See Fukuzawa, J., 1971.

Fukamauchi, H., Sekiguchi, M., and Iiyoshi, K. Analysis by fluorotitanic acid and hydrogen peroxide reagent. I. Reaction of silicic acid with the reagent, 425; II. Colorimetric determination of reagent, 425; silicic acid, 425.

Fukami, K. See Nakamura, Yoshitaka, 2895.

Fukker, K. See Rusznák, I., 1550.

Fukuda, M. Micro-determination of methoxyl groups, 3013.

Fukuda, T., Omori, H., and Kusama, T. Vapourphase chromatography. II. Quantitative analysis by a laboratory-made apparatus, 2829.

Fukuyama, T., Sato, Tokuro, and Jimura, H. Estimation of toxic gases in air. X. Phenol,

Fukuzawa, J., and Fujiyo, T. Paper-chromato-graphic determination of the decomposition product of procaine hydrochloride, 1971. Fulda, M. C. Determination of traces of thorium

in uranium solutions, 447. Fuller, L. T. See Norris, M. V., 3895.

Fultz, C. R. See Haughton, P. F., 3335.

Funasaka, W., and Kojima, T. Separation and determination of pyridine and x-picoline by paper chromatography, 581. Paper chromatography of pyridine homologues, 582.

Kojima, T., Ishibashi, Michihiro, and Kita, H. Separation and determination of monodi- and tri-chloroacetic acids with an ion-exchange resin, 3781.

Furman, L., and Vrščaj. V. Magnetic mass spectrometer, 4412.

Furman, N. H., and Fenton, A. J., jun. Calibration of an integrating motor for coulometric titrations,

Fursey, A. See Floberg, S., 4022. Furst, A. See Skoog, D. A., 2650. Fürst, F. See Malkus, Z., 3150.

Furukawa, G. T. See Glasgow, A. R., jun., 568 Furukawa, T. Studies on chromatostrips. VI Separation and identification of aromatic nitrogen compounds with a chromatostrip, 2272.

Furusawa, M. See Takeuchi, T., 2698, 3063. Füsti Molnár, S. See Legrádi, L., 3701.

Gabrielson, G. Determination of lead in lead fluoreborate solutions, 63.

Gabsch, H.-C. See Büchner, M., 3491.

Gad, G., and Hoppe, W. Determination of the potassium permanganate demand in water and sewage, 279.

Gaddie, R. S. See West, R. R., 1359. Gaddis, A. M., and Ellis, R. Volatile saturated aliphatic aldehydes in rancid fat, 2409.

— See also Ellis, R., 3020.

Gadzhiev, D. M. Methods for the determination of lactic acid [in wines], 702. Determination of malic acid [in wines], 703. Determination of tartaric acid in products of the wine industry, 704.

Gaensler, E. A., Cadigan, J. B., Ellicott, M. F., Jones, R. H., and Marks, A. Determination of carbon monoxide in blood, 616.

Gaetjen, J. E. See Volchok, H. L., 3433. Gaeva, N. F. See Usova, M. S., 114.

Gaeva, N. F. See Usova, M. S., 114.
Gage, J. C. Determination of ethylene oxide in the atmosphere, 711. Determination of parathion [diethyl p-nitrophenyl phosphorothionate] vapour and dust in the air. 2413.

Gagiu, M. See Ghelberg, W. N., 3998.
Gagliardi, E., and Reimers, H. Studies and analytical evaluation of triple salts of the type NaMII(UO2)3(CH3COO)9.xH2O. [Determination of sodium], 2105. Complexometric determination of sodium, potassium, or the sum of these, by ion exchange, 3609.

Gagnon, P. E., Keirstead, K. F., and Yamasaki, D. Determination of sulphate acid ester in unstab-

ilised cellulose nitrate, 167. Keirstead, K. F., and Newbold, B. T. Determination of sulphate acid ester in unstabilised cellulose nitrate by the hydrolysis method, 3810.

Gaidarzhi, N. P. Determination of manganese with persulphate in the presence of various catalysts, 3735.

Gaillard, B. D. E. Analysis of the crude fibre and nitrogen-free extractives fractions of roughages. Proposed scheme of analysis, 4344.
 Gaind, K. N., and Punn, D. P. Estimation of

sulphonamides, 3136.

Gaines, G. L., jun. See Zemany, P. D., 2108. Gaitonde, M. K., and Gordon, M. W. Microchemical method for the detection and determination of shikimic acid, 3842.

Gal, E. M., and Roth, E. Spectrophotometric methods for the determination of cholinesterase activity, 1657.

Gál, I. See Holló, J., 3164.

Gal, O. S. See Dizdar, Z. I, 830.

Galakhova, V. N. Determination of silicon in the presence of phosphorus, iron, copper, manganese and titanium, 1154.

Galibei, L. I. See Yavorovskii, A. A., 2593.

Galibin, V. A. See Efremov, G. V., 2558.

Galich, P. N. See Sergienko, S. R., 586.

Galkin, D. E. Potentiometric determination of sulphur in coal. 4215. Potentiometric determination of water-soluble sulphates, 4080. See also Ugol'nikov, N. A., 1831.

Gallai, Z. A., Tiptsova, V. G., and Peshkova, V. M. Use of ascorbic acid in amperometric titration. Determination of vanadium and cerium in the presence of other elements, 1176.

— See also Peshkova, V. M., 3713.

Galletta, F. A. See Flickinger, L. C., 1524, 2989.

Gallo, G. G. See Sensi, P., 1340.

Gallop, P. M., Seifter, S., and Meilman, E. Collagen.
I. Partial purification, assay, and mode of activation of bacterial collagenase, 1660.

Galloway, L. S., Nielson, P. W., Wilcox, E. G., and Lantz, E. M. Micro-determination of cholesterol by use of 0.04 ml of blood serum, 1650.

Gallus, J. Potentiometric determination of sodium sulphide, 2182

Galster, H. See Fuhrmann, H., 297.

Galt, J. See McCurdy, W. H., jun., 3372. Gálvez, E., and Garrido, J. M. Micro-determination of metals in wines by previous adsorption with resins. Iron determination, 4316.

Gamsjäger, H., and Reichert, R. Separation of small amounts of magnesium from iron with ammonium sulphide, 2536.

Gamson, R. M. See Kramer, D. N., 1569, 2356. Ganago, L. I., and Tananaev, N. A. Determination of colouring matter in glass by surface treatment. (Determination of copper), 31. See also Tananaev, N. A., 84.

Ganguly, S. K., and Bhattacharya, H. Colorimetric determination of folic acid in presence of azo

Garate, M. E., and Garate, M. T. Determination of lead as sulphate in anti-friction alloys, 3295. Analysis of anti-friction metals, 3990.

Garate, M. T. See Garate, M. E., 3295, 3990. Garcia, F. C. See Capitán Garcia, F.

Garcia del Amo, C. Application of the Monche apparatus for micro-determination of blood gases to the determination of amino acids by their amino groups, 3456. Manometric evaluation of amino acids based on determination of their carboxyl groups, 3457.

García Escolar, L., and Niño Martinez, E. Mineralisation of organic materials. Tetraethyl-lead.

III, 136.

Gardiner, S. D., and Keyte, H. J. Methods for determining water in refined sugars, including the newly devised cobaltous bromide method, 2774.

Gardner, A. W. See Barker, G. C., 1416, 3255. Gardner, J. A. F. See Barton, G. M., 2423.

Gardner, K. Analysing new herbicides and in-secticides, 1015.

Gardner, W. J. Determination of uranium in a mixture of bromine, bromine trifluoride and uranium hexafluoride, 1194.

Garen, A. See Kraus, K. A., 3319. Garis, J. J., jun. See Siggia, S., 2232. Garlock, N. B. See Makower, S., 2305.

Garmendia, A. A. See Fernandez Segura, H., 2152. Garmus, R. D. See Gunther, F. A., 2028. Garnett, J. L., and Lock, L. C. Naphthalene derivatives in inorganic analysis: 11. Nitronaphthylamines as reagents for mercuric mercury and ceric cerium, 2135; IV. Nitronaphthylamines as fluorimetric reagents for stannous tin, 2933.

See also Anderson, J. R. A., 2568.

Garnier, M., and Wakli, A. Identification of nitrothiophosphoric esters in toxicological tests, 3937. Garratt, D. C. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Analytical developments in a pharmaceutical laboratory, 2478.

Johnson, C. A., and Lloyd, C. J. Determination of morphine in opium and some of its galenical

preparations, 2754.

Garrido, J. M. See Gálvez, E., 4316. Garrison, R. A., Harwood, V., and Chapman, R. A. Determination of polyoxyethylene esters in bread and rolls, 2780.

Garside, J. E., Rooney, T. E., and Belli, J. J. J. Alcoholic-iodine method for the extraction of inclusions from steel, 1521.

Garth, M. A. See Wilner, J., 2371. Garton, F. W. J. Spectrographic determination

of boron in graphite, 1142.

Garton, W. R. S., Webb, M. S. W., and Wildy, P. C. Application of vacuum ultra-violet techniques to the continuous monitoring of trace concentrations of water in several gases, 2885.

Gaskin, J. G. N., and Mesley, R. J. Effect of basic lead acetate solution upon the optical rotation (polarisation) of solutions of sucrose, laevulose fructose] and dextrose [glucose] and of various mixtures of these solutions, 4307.

 See also Eynon, L., 258.
 Gasparič, J., and Večeřa, M. Identification of organic compounds. XXI. Choice of solvent system for the paper-chromatographic separation of organic compounds, 3370. See also Večeřa, M., 859, 889, 2273, 3398.

Gašperik, J. See Horak, F., 2365. Gassner, K. Analysis of condensed phosphates, 459

- and Ender. G. Quantitative paper chromatography of phosphate additives in sausages, 2391. Gates, J. W. Automatic recording saccharimeter, 3953

Gauguin, R. Potentiometry at constant intensity, 2855

Gaur, H. C. See Laitinen, H. A., 2857. Gautier, J. A., and Pellerin, F. Determination of small quantities of mercury in organic combination in foodstuffs and pharmaceutical preparations, 4305.

Gauzzi, F. Analysis of mixtures of tin, stannous and stannic oxides, 2936.

Gavanda, L. Automatic titrator, 4355. Gavrilov, F. F. See Striganov, A. R., 1505.

Seminar of the Centro Ricerche Spectro-Gazzi, V. chimiche of the Associazione Italiana di Metal-[Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] "Enhance-ment" and "weakening" in spectrochemical analysis. Effects of the source energy and the excitation potential of the lines of the elements. Analytical deductions, 15, 1435.

Géczy, K. See Bene, E., 1293. Geddes, E. T. See Allen, J., 2691. Gedin, H. I., and Porath, J. Zone electrophoresis in vertical columns. 11. Zone electrophoresis of serum proteins, 2345.

Gegus, E. See Erdey, L., 54.

Gehrke, C. W., Bevirt, J. L., and Johnston, M. R.
Critical points in the Schechter - Hornstein colorimetric method for lindane [y-hexachlorocyclohexane], 1016.

and Wood, E. L. Application of ion exchange to flame spectrophotometry and determination

of potassium in fertilisers, 4342. Geilmann, W. Evaporation analysis for the detection of minute traces of material. I. Experimental technique, 3963.

and Neeb, R. Analytical chemistry of platinum metals. V. Separation of minimal amounts of osmium and ruthenium by distillation, 540; VI. Separation of osmium and ruthenium by extraction of the diphenylthiourea and tetraphenylarsonium compounds, 540.

Gein. L. G. Bromine - methyl orange method of determining manganese in highly alloyed steel and duralumin, 512.

See also Khlopin, N. Ya., 1209.

Geiss, E. Production of a continuously variable liquid mixture for gradient elution in chromatography and similar applications, 1763.

Geissler, A. See Drefahl, G., 3589. Geissler, G. See Breuer, H., 212. Gelberg, A. See Hanker, J. S., 1827.

Geller, E. See Downs, J. J., 3859.

Gellerman, J. L. See Schlenk, H., 2405.

Gel'man, N. É., and Korshun, M. O. Micro- and semi-micro determination of nitrogen by hydrogenation of organic materials, 543.

Korshun, M. O., and Sheveleva, N. S. of micro-elementary analysis. XIV. of micro-elementary analysis. determination of carbon and hydrogen in organofluorine compounds, 1243.

 See also Korshun, M. O., 1542.
 Genchev, M., and Atanasov, B. Oxidation of aromatic amines. I. Colour reactions of aromatic amines with hydrated manganese oxide,

General Instruments Co., Ltd., and Tadayon, J. Variable path-length absorption cells for liquids,

Genest, J. See Nowaczynski, W., 1324.

Genge, J. A. R., and Salmon, J. E. Volumetric determination of phosphates and of metals in the presence of phosphates. III. Volumetric determination of lanthanum and neodymium in the presence of phosphates, 2924.

Gengrinovich, A. N., and Kadyrov, Ya. K. Quantitative determination of methyl and ethyl salicyl-

ates, 1560. Gent, P. K. van. Blood alcohol calculations made

easy, 1597. Gentil, V. See Feugl, F., 1240, 1279.

Gentile, J. J. See Kane, L. J., 2288. Geratebau-Anstalt. Method and instrument for measuring a vacuum, 741.

Gerdom, K. H. See Schenck, H., 3747.

Gerhardt, P. B., and Hartmann, E. R. Determination of calcium or zinc additives in lubricating oils and concentrates by (ethylenedinitrilo) tetraacetic acid [EDTA] titration, 589.

Gerlach, J. L., and Frazier, R. G. Spectrophoto-

metric determination of chloride in sweat and

serum with diphenylcarbazone, 4228.

Gero, E., Le Gallic, P., and Bourdeau, A. Determination of total ascorbic acid by the use of a

suspension of Erwinia solanisapra. I, 2800. Gerosa, V., and Melandri, M. Polarimetric determination of 17-hydroxyprogesterone caproate in benzyl benzoate - castor oil, 3127.

Gerretsen, F. C., and Campen, W. A. C. Determination of carbon from household fuel in town refuse, 4328.

Gershuns, A. L. 2:2'-Diquinolyl and its use in the photometric determination of copper in metals and alloys, 4000.

and Bashkevich, Yu. V. Photocolorimetric determination of small amounts of copper by means of 2:2'-diquinolyl, 1452.

Gersten, B. Colorimetric procedure for phosphorus in feeds and marine products, 2815.

Gerstenfeld, S. See Saifer, A., 3818.

Gertner, M. See Juhász, B., 3552.

Gertseva, N. S. Polarographic determination of bismuth, copper and lead when present together,

and Khomyakova, E. A. Determination of large quantities of titanium by polarography, 2576.

Getchell, G. See Kingsley, G. R., 2352.

Getzendaner, M. E. See Smith, G. N., 2426.

Gevlich, V. F. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Characteristic reactions for Tibione (thiacetazone) and Phthivazid (acetaldehyde isonicotinovlhydrazone), 1661.

Geyer, A. See Babin, R., 676.

Geyer, L. See Mashall, J., 2128.

Geyer, R., and Doerffel, K. Volumetric determina-tion of sulphate in waters, 2804.

Ghe, A. M. Chromatographic detection of germanium in a flotation concentrate, 2151. See also Venturello, G., 1798.

Ghelberg, W. N., and Gagiu, M. Micro-determina-tion of copper, 3998. Gheorghiu, C., and Rădulescu, E. Gravimetric

determination of small amounts of phosphorus,

See also Spacu, G., 2188, 2974. Ghose, P. See Datta, S. K., 2508.

Ghosh, A. K., Srivastava, R. K., and Tayal, J. N. Suitability of the Indian frog (Rana tigrina) for the biological assay of tincture of digitalis, 4279.

— See also Chatterjee, K. K., 1315. Ghosh, S. See Gupta, Y. K., 2186.

Giang, P. A., and Caswell, R. L. Polarographic determination of dimethyl 2:2:2-trichloro-1hydroxyethylphosphonate (Bayer L 13/59) [Dipterex], 2819.

Gibalo, I. M., and Malyarov, K. L. [Conference on Methods of Analysis of Rare and Non-Ferrous Metals. Moscow, 1956.] Separation of niobium and tantalum with acridine, 1442.

See also Alimarin, I. P., 1787, 2509, 3695, and Malyarov, K. L., 1442.

Gibbs, R. R., and Moore, F. Determination of copper and arsenic in carbon blacks, 3619.

Gibson, M. R. See French, D. I., 308.

Giger, K. See Kägi, J., 3442.

Gil-Av, E., Herling, J., and Shabtai, J. Gasliquid partition chromatography of mixtures of the three isomeric methylcyclohexenes and methylenecyclohexane, 2695.

Gilbert, L. O. Analysis of phosphating solutions: colorimetric determination of nitrate, 71.

Gilbert, T. W., jun., Meyer, A. S., jun., and White, K. C. Spectrophotometric determination of lithium carbide in metallic lithium as the acetylene - silver perchlorate complex, 1118.

Gile, H. S. See Carson, W. N., jun., 832.

Gill, H. See Dozinel, C. M., 1124. Gill, I. See Devor, A. W., 3445.

Gillham, E. J. High-precision photo-electric polarimeter, 2843.

Gilli, P. Measurement of the proportion of constituents in mixtures .1074.

Ginzburg, F. L. See Starik, I. E., 3727.

Ginzburg, L. B., and Shkrobot, E. P. Separation of molybdenum and rhenium by ion-exchange chromatography, 483.

Girard, R., and Laubie, H. Identification of kojic

acid, 686.

Giri, K. V. Zone electrophoresis of serum proteins in agar gel, 661. Agar electrophoresis apparatus

Nath, R., and Srikantiah, H. Agar electro-... Quantitative evaluation of agar electrophoresis patterns of human serum proteins by densitometry and comparison with moving boundary electrophoresis, 1318.

Giuliano, R. See Ciranni, G., 1369. Giuran, V. See Ciuhanda, G., 3271.

Gladkova, E. N. See Shatenshtein, A. I., 353.

Gladyshev, V. P., and Tolstikov, G. A. Qualitative and semi-quantitative detection of the fluorine ion by a drop method, 1202

Gladyshevskaya, K. A. See Pshenitsyn, N. K., 2656. Glanville, D. E., Grant, D. W., and Strachan, G. L. Apparatus for preparation, analysis and investigation of plutonium solutions, 1028.

Glasgow, A. R., jun., Ross, G. S., Horton, A. T., Enagonio, D., Dixon, H. D., Saylor, C. P., Furukawa, G. T., Reilly, M. L., and Henning, J. M. Comparison of cryoscopic determinations of purity of benzene by thermometric and calorimetric procedures, 568.

Glasser, L. G. [National Conference on Instrumental Methods of Analysis. Chicago, 1957. Optical methods of process stream analysis, 1725.

Glavind, J. [Fat rancidity. Scandinavian symposium on fat rancidity. Elsinore, 1957.] Determination of peroxide values, 3527.

Glazova, A. I. See Blok, N. I., 3668. Glazova, K. I. See Korshun, M. O., 1542

Glebovskaya, E. A., and Shishkova, A. P. Use of infra-red absorption spectra in the determination of sulphide sulphur in the asphalt-resin portion of

petroleum, 3799. Glemser, O. See Ziegler, M., 65, 100, 2649, 4042. Glick, D., Freier, E. F., and Ochs, M. J. Histo-chemistry. XLVII. Micro-determination of

magnesium and its histological distribution in the adrenal in various functional states, 180.

and Grunbaum, B. W. Microlitre absorption cell and its adaptation to the Beckman Model DU spectrophotometer, 322.

Glubrecht, H. Monochromator for u.v. microspectrometry, 3952.

Glukhovskaya, R. D. Mercurimetric determination of chlorine and bromine in organic compounds,

Glushko, E. I. See Belyaeva, V. A., 2579.

Gluzman, M. Kh., and Rubtsova, V. P. Identification of glycosides, furanochromones, alkaloids and their salts by the method of determination of eutectic fusion, 1334.

Gnidets, I. R. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Fluorimetric deter-

mination of folic acid, 1661. Goddu, R. F. Determination of unsaturation by

near-infra-red spectrophotometry, 1544. Godfrain, J. C., Bertrand, P., and Liandier, L.

Identification and determination of formaldehyde in food products, 1989.

Goebel, E. F., and Roseira, A. N. Colorimetric

methods for analysis of dithionite, 1832.
Goedkoop, W., and Hartong, B. D. Conductimetric hop analysis, 2397.

Goff, H., jun., and Blachly, F. E. Conductivity method for the determination of soap in refined vegetable oil, 1993.

Goia, I. See Ionescu, M., 1541.

Goisa, E. I. See Tilicheev, M. D., 1263.

Golby, R. L., Hildebrand, G. P., and Reilley, C. N. Direct titration of calcium in blood serum, 2312. See also Yarbro, C. L., 3076.

Short cuts in analysing aluminium Goldberg, C. alloys, 56.

Meyer, A. S., jun., and White, J. C. volume five-centimetre absorption cell, 4370.

Goldberg, M. E., and Rossi, G. V. Turbidimetric determination of lysozyme in animal gastric juice, 4245.

Goldberg, S. See Finkelstein, M., 1653.

Golden, P. L. See Hofer, L. J. E., 1049.

Goldman, M. See Ceccaldi, M., 1435.

Goldschmidt, L. Semi-micro technique for the measurement of NN-dimethyl-p-phenylenediamine (DPP) oxidase in blood, 1658.

Goldstein, D. See Feigl, F., 879, 880, 2626, 2683,

Goldstein, G., Manning, D. L., and Menis, O. Spectrophotometric determination of molybdenum as the quercetin complex in a benzoin α-oxime - chloroform - ethanol medium, 2976.

 α-oxime - chorotorm - ethanol medium, 2976.
 See also Menis, O., 498, 806.
 Goldstein, S. W., and Dodgen, D. F. Assay of methionine, 2340.
 Goldzieher, J. W., and Besch, P. K. Fluorescence and absorption spectra of corticosteroids in sulphuric and phosphoric acids, 3482.

Golling, E. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] The background in the spectrum of the carbon arc and its significance in spectral analysis, 1435.

Gollub, S., Black, J., and Ulin, A. W. Micromethods for prothrombin determination. II. Haematocrit method, 637.

See also Ulin, A. W., 637.

Golner, J. J. See Troupe, R. A., 2284.

Golovatyi, R. M., and Lototskii, S. E. Quantitative separation of copper from the elements of the third analytical group, 366.

Golovina, A. P., and Alimarin, I. P. 8-Hydroxyquinoline derivatives for determining certain [Colorimetric determination of gallium], 2139.

See also Alimarin, I. P., 2509, and Przheval'skii, E. S., 1786.

Golub, O. J. See Sobel, C., 3479.

Golubović, V. B. See Ivković, V., 2080.

Golubow, J. See Martin, C. J., 3870.

Golubtsova, R. B. Detection of aluminium in alloys without taking drillings, 407. Gómez Aranda, V. See González Sáchez, F., 907.

Gómez Vigide, R. F. Kjeldahl - Ronchése method for the rapid determination of organic nitrogen.

Gonsior, T. See Stumpf, K. E., 1435.

González Sánchez, F., and Gómez Aranda, V. Determination of nitrogen in solid fuels by the Kjeldahl method. Study of catalysts and other variables, 907.

and Isabal Gracia, R. Determination of ash in lignites, 911.

Good, M. L., Purdy, M. B., and Hoering, T. Anionexchange separation of iodine anions, 3733.

Goodall, M. See Kirshner, N., 188.

Gooderham, W. J. Constant-volume gas analysis apparatus, 2832.

Goodhue, D. L. See Toren, P. E., 2809.

Goodwin, J. F., Hahn, R. B., and Boyle, A. J. Chloric acid determination of protein-bound iodine by use of iodine-131, 1321.

Thibert, R., McCann, D., and Boyle, A. J. Estimation of serum phospholipid and total phosphorus using chloric acid, 4248.

Gopal, K. See Kamath, R. V., 3140.

Gopalan, C. See Srikantia, S. G., 2724.

Gorbach, G., and Kögler, H. Microchemical determination of nicotine in tobacco, 1333.

Gorbýleva, N. V. See Belyakov, A. A., 1271.

Gordeeva, M. N. See Morachevskii, Yu. V., 1185. 1195

Gorden, R., jun. See Weaver, E. R., 3173.

Gordon, C. F. See Rosenthal, I., 3192.

Gordon, H. T. See Menn, J. J., 2027.

Gordon, Lily. See Freeman, L., 640.

Gordon, Louis. See Greenhaus, H. L., 797.

Gordon, M. W. See Gaitonde, M. K., 3842.

Gordon, R. J., Moore, R. J., and Muller, C. E. Aromatic types in a heavily cracked gas oil fraction. Combined use of ultra-violet and mass spectrometry, 4213.

Gordon, S., and Campbell, C. Automatic recording burette, 1398.

Gordon, W. A. See Fassel, V. A., 2155.

Gordon-Gray, C. G. Comparison of the results of estimating black wattle tannin by the official hide-powder method and by a proposed ultraviolet spectrophotometric method, 3067.

Gordy, E., and Drabkin, D. L. Spectrophotometric studies. XVI. Determination of oxygen satura-

tion of blood, 612. Gore, R. C. [Review of industrial applications of analysis, control and instrumentation.] Infrared spectroscopy, 2867.

Goremykin, V. E., and Kryukov, P. A. Potentiometric determination of sodium ions by means of a glass electrode with a sodium function, 2887.

Gorin, G. See Waddill, H. G., 4257.

Goris, P., Duffy, W. E., and Tingey, F. H. Uranium determination by the isotope dilution technique, 1190.

See also Paige, B. E., 3334.

Görög, S. See Bartha, L., 3751.

Gorovaya, B. S., and Aidarov, T. K. Spectrographic determination of the oxides of calcium and magnesium in clays, 1460.

Gorringe, J. A. L. Lissamine green as a protein stain in paper electrophoresis, 2348.

Gorshkov, G. V. See Aidarkin, B. S., 2534.

Gorushkina, G. I. See Fedorov, B. P., 1909.

Goryacheva, N. S. Use of skeletal nickel catalyst in the analysis of organic compounds, 3790.

Goryushina, V. G. State of the analytical chemistry of beryllium, 2531.

and Romanova, E. V. Eriochrome black T and carminic acid as indicators in the complexometric determination of zirconium, 1484.

Goswami, N. Estimation of ferrous oxide in chromite, 518.

Got. C. See Owen, J. A., 1643.

Gotô, H., and Hirokawa, K. New spectrophotometric determination of a small amount of titanium in iron, steel and ferro-alloys, II. Determination of titanium in metallic manganese, ferromanganese, silicon and silicomanganese, 2157; III. Determination of titanium in metallic chromium, ferrochromium, ferrotungsten, ferromolybdenum and ferrovanadium, 2157.

and Ikeda, S. Determination of traces of metals by the extraction of inorganic compounds with organic solvents. I. Determination of vanadium.

and Kakita, Y. Photometric determination of a micro amount of antimony with fuchsine or malachite green, 2592. Electrolytic determination of lead in iron and steel, 2643. Photometric determination of tin in iron and steel. Photometric determination of tin with sodium diethyldithiocarbamate, 3344.

Kakita, Y., and Hirokawa, K. Spectrophotometric determination of a small amount of titanium in iron, steel and ferro-alloys. Determination in steel and cast iron, 2157.

and Takeyama, S. Determination of micro amounts of calcium, magnesium and aluminium in titanium metal, 3297.

and Watanabe, Shiro. Influence of arsenic on the analysis of iron and steel. I. Determination of sulphur and phosphorus in iron and steel, 3748.

Goto, K. See Mukai, K., 2968.

Goto, N. See Kimura, T., 4297. Gotsis, A. See Carpenter, K. J., 1649. Götte, H., Kretz, R., and Baddenhausen, H. Determination of ¹⁴C-containing compounds, 1873.

and Pätze, D. Identification of fission products

of uranium by means of paper chromatography, 826.

Gottfried, J., and Novák, J. V. A. Polarographic determination of sulphamic acid and nitrite, 807. See also Sulcek, Z., 2567.

Gottlieb, O. R., and Taveira Magalhães, M. Volu-Simulmetric determination of nitrate ion. taneous determination of nitrite, 3307.

Gottschalk, G. Gravimetric semi-micro and microdetermination of phosphorus as 3-oxine-12-molybdophosphate, 3309.

and Dehmel, P. Statistics in chemical analysis. I. Revealing of systematic and gross errors and the importance of accidental errors in the framework of gravimetric and titrimetric analytical procedures, 2482; II. Evaluation of practical analyses, 3584.

Goudswaard, A. Cupric acetate reagent for sulphonamides, 3135.

Gough, G. See Densham, A. B., 154, 2478. Gould, I. A. See Morr, C. V., 1693, and Sato, I., 697.

Goulden, J. D. S. Diffuse reflection spectra of dairy products in the near-infra-red region, 698. Use of SP.500 spectrophotometer in the nearinfra-red region, 1410.

Goulden, R. Analysis for industry. [Colorimetric determination of silver. II, 4005; [Colorimetric determination of silver. II], 3623.

Gowda, H. S., Rao, K. B., and Rao, G. G. Vanadametry. Determination of hydroxylamine. Copper sulphate as catalyst, 3679.

See also Rao, K. B., 1172.

Graab, J. W. See Otterson, D. A., 4090. Grabbe, F. See Reich, H. F., 4023.

Gracheva, E. G., and Khusainova, Sh. G. Determination of the tritium content of liquids, 1778. Gracia, R. I. See Isábal Gracia, R.

Gracián, J., and Martel, J. Differentiation of olive oil and sulphur olive oil, 707.

Gracias, C. E. Photometric determination of tantalum in the presence of titanium, 4073.

Gráf, F. See Matsch, E., 622. Gráf, L., and Tóth, J. Adsorption theory of gas chromatography, 1765.

— See also **Tóth, J.,** 2100. **Graff, R. L.** See **Mullin, H. R.,** 3325.

Grammakov, A. G. See Aldarkin, B. S., 2534.

Grant, D. W. See Glanville, D. E., 1028.

Grant. R. A. Recording dielectrometric method for column chromatography, 3948.

Grantham, R. L., and Hastings, A. G. Silicone resin determination by piperidine extraction, 3418.

Gras, W. D. See Wittmose, A., 3746.

Grassmann, W., Hörmann, H., and Hafter, R. Quantitative determination of carbohydrates as osazones. (Application to collagen and procollagen), 1309.

Grat-Cabanac, M. Colorimetric determination of iron in phosphoric acid and its salts, 2988.

Grau, R., and Mirna, A. Determination of nitrite, nitrate and sodium chloride in meat products and

brines, 2390.

Gray, F. B., jun. [National Conference on Instrumental Methods of Analysis. Chicago, 1957. Hydrocarbon measurements in drilling muds, 1725.

Gray, I., and Young, J. G. Adrenaline and noradrenaline concentrations in plasma of humans and rats, 1613.

Greaves, M. C., Beta - gamma counting method for radiometric determination of uranium, 1191.

Greco, J. See Kanabrocki, E. L., 634, and Kinnory, D. S., 1040.

Green, F. O., and Feinstein, R. N. Quantitative estimation of 3-amino-1:2:4-triazole, 1278. Greene, F. L. Urea phosphate reagent as a test

for heptoses on paper chromatograms, 4175. See also Resnik, F. E., 1549.

Greene, S. A., and Pust, H. Determination of nitrogen dioxide by gas - solid chromatography,

Greenfield, S. Flow-through cell for use with scintillation counters, 2470

Greenhaus, H. L., Feibush, A. M., and Gordon, Louis. Ultra-violet spectrophotometric determination of ceriumIII, 797.

Greenspan, J., and Carlson, A. S. Determination of uranium hexafluoride in a gas stream, 3331.

Greenwood, N. N., and Wade, K. Capillary viscometer, 1735. Greet, Y. M. See Crow, W. D., 3210.

Gregorczyk, Z. Colorimetric determination of ascorbic acid with quadrivalent titanium salts, 1378.

Gregorowicz, Z., Grochowski, S., and Kubala, J. Photometric determination of nickel with dimethylglyoxime, 1230.

Gregory, M. E., and Holdsworth, E. S. Measurement of "binding" of cyanocobalamin by "in-

trinsic factor" preparations, 192.

Greiling, H. Spectrophotometric determination of bacterial hyaluronidase, 3490.

Grekov, A. P. See Litvinenko, L. M., 1679, 2242,

Grenfell, T. C. See Ciaccio, L. L., 1277, and Pazdera, H. J., 1327

Griffith, J. C. Quantitative estimation of a nonionic detergent, 168.

Griffiths, F. P. See Lime, B. J., 3188.

Griffiths, L. A. Separation and identification of aromatic acids in plant tissues by paper chromatography, 1011.

Griffiths, V. S., and Jackman, M. I. Winkler method for dissolved oxygen determinations, 3179.

Griffiths, W. J., and Collinson, S. Estimation of noradrenaline in urine and its excretion in normal and hypertensive subjects, 631.

— See also Middleton, J. E., 3087.

Grignon, H. See Monnet, R., 4304.

Grikit, I. A. Influence of nitriding on the spectrographic analysis of steel and elimination of the observed effect, 2640.

Grim, E. C. See Kuck, J. A., 545. Grimes, M. D. See Nelson, K. H., 584.

Grimm, H. See Brandstätter-Kuhnert, M., 1343. Grinberg, A. A., Nikol'skaya, L. E., Petrzhak, G. I., Ptitsŷn, B. V., and Filinov, F. M. Preparation of sparingly soluble compounds of quadrivalent uranium by means of Rongalite (sodium formaldehydesulphoxylate), 488.

and Dobroborskaya, A. I. Volumetric determination of iron, platinum and iridium when present together, 1216.

— See also Belousov, E. A., 2658.

Grinberg, F. L. See Savinov, B. G., 721.

Gringras, L. See Sjöstett, G., 2540.

Grisolia, S., Mokrasch, L. C., and Hospelhorn, V. D.

Adenosine mono-, di- and tri-phosphate, pyruvic

kinase, hexokinase and polynucleotide phosphorylase assay, 3846.

— See Towne, J. C., 195.
Grizo, V. A. See Knizhko, P. O., 1661.
Grob, R. L. See Rosie, D. M., 1044.
Grochowski, S. See Gregorowicz, Z., 1230.

Grodsky, G. M. Assay of insulin by fibril formation

from small samples of pancreas, 3503. Groennings, S. Refractive intercept - density chart for the determination of total naphthenes in gasoline, 3406.

See also Eggertsen, F. T., 1914.

Gross, D. High-voltage paper electrophoresis of some inorganic anions, 2514.

Gross, S. K., Sarkanen, K., and Schuerch, C. Determinations of molecular weight of lignin degradation products by three methods, 3190.

Grossman, S., and Haslam, J. Determination of lead in poly(vinyl chloride) compositions containing lead stabilisers, 2719

Grossowicz, N. See Aronovitch, J., 3535.
Grotheer, M. P. Mctal - dye compounds as analytical reagents: determination of bismuth, 3692.

Grover, K. C., and Mehrotra, R. C. Alkaline bromine as volumetric reagent. II. Estimation of isopropyl alcohol and acetone singly as well as in mixture, 4169; I. Estimation of ammonia, urea and thiourea, 4185.

Groves, K. Ana demeton, 3555 Analysis of mixtures of isomers of

See also Legault, R. R., 897. Gruber, H. See Gulinsky, E., 3062.

Grubitsch, H. See Püschel, R., 2200. Grummitt, W. E. See Milton, G. M., 1129. Grunbaum, B. W. See Glick, D., 322. Grünberger, D. See Horáček, J., 2563.

Grüne, A. Paper chromatography and paper electrophoresis. [II], 774; [I], 1433. Grüner, K., Soukup, M., and Drahotská, B. Complexometric determination of aluminium cryolite-type salts, 3647.

Gruntová, Z. Colorimetric determination of caffeine in the presence of amidopyrine and alkaloids, 224.

See also Dušinský, G., 219, 230.

Grupinski, L. Portable interferometer for firedamp detection, 3220.

Guagnini, O. A. See Vonesch, E. E., 2401.

Gude, F. See Ritter, H., 2265.

Guedes de Carvalho, R. A. See Carvalho, R. A. G.

Guedin, R. M., Harvey, M. C., and Wilkerson, R. C. Infra-red quantitative analysis data. Analysis of isobutane, isobutylene, 1-butene, n-butane and cis- and trans-2-butene, 1587.
See also Wilkerson, R. C., 3817.

Guenther, F. O. Determination of silanols with

Grignard reagent, 4195.

Guerrant, G. O. Ultra-micro molecular-weight determination, 2036.

Guerrero, A. H. See Bertin, M. E., 2136.

Guerreschi, L., and Romita, R. Spectrophotometric determination of aluminium and iron with haematoxylin, 2555.

Guerrieri, F. See Nebbia, L., 1254, 2250.

Guillaume, J. See Osteux, R., 3023.

Gulbierz, J. E. See Newstead, E. G., 1144.

Gulinsky, E., and Gruber, H. Analysis of epoxy resins, 3062.

Gumbar, K. K. See Chaikin, P. I., 392. Gunesch, H., and Stadtmüller, R. Separation and determination of the higher acetylenes produced by the electric arc cracking of methane gas by gas - liquid partition chromatography, 3775.

Gunew, D. See Dewar, R. A., 310.
Gunn, A. H. See Cross, A. H. J., 2713.
Gunsberg, E. See Eigen, E., 284.
Gunther, F. A., and Blinn, R. C. Ultra-violet spectrophotometric micro-determination of the acaricide 4:4'-dichloro-α-(trichloromethyl)benzhydrol (FW-293), 1724.

Blinn, R. C., Jeppson, L. R., Barkley, J. H., Frisone, G. J., and Garmus, R. D. Field persistence of the acaricide 4:4'-dichloro-a-(trichloromethyl)benzhydrol [2:2:2-trichloro-1:1-di-(p-chlorophenyl)ethanol] (FW-293) on and in mature lemons and oranges, 2028.

Blinn, R. C., Kolbezen, M. J., Wilson, C. W., and Conkin, R. A. Evaluating concentrations of spectrally absorbing vapours in dynamic systems. Spectrophotometric techniques and equipment, 4373.

Jeppson, L. R., Barkley, J. H., Elliott, L. M., Blinn, R. C., and Dunn, C. L. Persistence of residues of 2:3-p-dioxandithiol SS-bis-(OO-diethyl phosphorodithioate) [Delnav] [Hercules AC-528] as an acaricide on and in mature lemons and oranges, 4351.

See also Blinn, R. C., 1488, and Rosenthal, I., 1723

Gunther, S. M. See Weaver, E. R., 3173. Guntz, A. A., and Arène, M. Apparatus for the colorimetric determination of fluorine, 306. Colorimetric determination of fluorine, 3729.

Günzel, C. Separation of glycosides of the red foxglove (Digitalis purpurea L.) by paper chromatography, 2757.

Gupta, A. C. See Prakash, O., 2787.

Gupta, A. K. S. Estimation of beryllium. II. Gravimetric method for its estimation in bervl.

Gupta, M. K. See Kar, B. C., 47. Gupta, Y. K., and Ghosh, S. Volumetric estimation of persulphate using arsenite as a primary standard, 2186.

Gur'ev. S. D., and Shkrobot, E. P. Determination of thallium in products from zinc production, 418.

Gurevich, A. B., and Kalina-Zhikhareva, V. I. Determination of arsenic in high-arsenic alloys by means of cationites and complexometric titration, 4066.

Gurevich, V. G., Skibina, E. M., Khomenko, N. E., and Emel'yanenko, I. V. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Chronometric micro-analysis, 1661.

Gurvich, A. M., and Gapon, T. B. Adsorptionchromatographic method with complexing agents for the separation of metals, 1103.

Gurvich, I. G., and Khanaev, E. I. Determination of

potassium in minerals, 2519. Guseinov, I. G. See Bagbanly, I. L., 2594.

Gusev, S. I., Kumov, V. I., and Beiles, R. G. Quanti-

tative determination of tungsten, 3717.

Kumov, V. I., and Sokolova, E. V. Use of 2hydroxy-linaphthaldehyde in analytical chem-III. Gravimetric semi-micro determination of beryllium, 379.

Gustin, G. M. Micro Dumas method for nitrogen determination, 853.

Gustin, T. A. See Chittum, J. W., 4182. Gutbier, G. See Boëtius, M., 3768. Gutmann, V. See Schöber, G., 3605. Guy, J. See Weinmann, S. H., 671. Guy, M. J. See Clinch, J., 2193. Guyer, H. [Seminar of the Centro Ricerche

Spectrochimiche of the Associazione Italiana di Metallurgia.] The selection of metallic specimens for spectrographic analysis, 15.

Gyozdanović, D. D. Mass spectrometer for analysis of hydrogen containing a low concentration of deuterium, 765.

See Whaley, T. P., 819. Gyan, J. A.

Gyenes, I. Simultaneous use of acetic anhydride and mercurous acetate in titrations of amines in glacial acetic acid, 343. Determination of phenols and carboxylic acids in the presence of each other, 570. Analytical examination of piperidinomethylcyclohexanone, 3796.
and Stefkó, B. Examination of intermediates

of diethylstilbene-4; 4'-diol [stilboestrol], 3886.

Győrbiró, K. See Proszt, J., 2414.

Haas, G. J., and Fleischman, A. I. Determination of moisture in hops, 2791.

Haas, J. See Desgrez, P., 4266. Haas, W. See Musil, A., 2179. Haber, J. See Deren, J., 41.

Häberli, E. Determination of metallic impurities in ultra-pure antimony by means of the dithizone method, 3689.

Habib-Labib, G. See Flaschenträger, B., 1401. Hadd, H. E., and Perloff, W. H. Improved all-glass

extractor, 301. Hädicke, M. Analytical behaviour of Wofacain A

[diethylaminoethyl 4-butylaminosalicylate hydrochloride], 1972.

Hadorn, H., and Suter, H. Determination of caf-feine in "caffeine-free" coffee, 984.

See also Suter, H., 4109.

 Hadzi, D. See Detoni, S., 1435.
 Haff, L. V., Butler, C. P., and Bisso, J. D. Titrimetric determination of fluorine, particularly in aluminium fluoride, 3337.

 Hatter, R. See Grassmann, W., 1309.
 Hattka, F. J. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Increasing the sensitivity in the spectrochemical analysis of solutions with carbon electrodes, 1435.

Hagedorn, H. See Piper, E., 1226. Hagee, G. R. See Setter, L. R., 3540. Hagino, K. See Iwasaki, I., 2971, 4079. Hague, J. L. See Machlan, L. A., 2996.

Hahn, F. L. End-point determination by interpolation in potentiometric micro-analysis, 3975. Hahn, R. B. See Goodwin, J. F., 1321.

Haines, W. E. See Hubbard, R. L., 1921.

Hais, I. M. See Sibliková, O., 3860.

Hale, D. K. Preparation and uses of ion-exchange

resins. A review, 2091.

Hall, G. R., Herniman, P. D., and Walter, A. J. Spectro-photometric studies of plutonium in nitric acid solution. I, 834.

and Palmer, G. H. Effect of oxygen isotopes in the analysis of plutonium isotopes using plutonium oxide ion beams in the solid source mass spectro-

meter, 833.

Hall, J. I. See Haslam, J., 3061.

Hall, L. C. See Laitinen, H. A., 760.

Hall, M. T. Spectrophotometric silicon determination in alloy steels using stannous oxalate as reductant, 2642.

Hall, R. J. Paper chromatography for the detection and determination of microgram amounts of inorganic fluoride, 1845

- See also McDonald, I. W., 1642.
Hall, W. L. See Bruening, C. F., 3124.
Hallgren, B., Stenhagen, E., and Ryhage, R. Quantitative mass-spectrometric analysis of mixtures of unsaturated and saturated fatty acids,

Halpern, C., and Ruegg, F. W. Sampling of flame gases, 3405.

Ham, A. B. See Ferro, P. V., 3427.

Hamaguchi, H., and Kuroda, R. Determination of traces of silver in silicate rocks, 2893.

Reed, G. W., and Turkevich, A. [Determination of uranium and barium in stone meteorites, 3723.

and Tomura, K. Spectrographic determination

of gallium in silicate rocks, 3650. Hamakawa, T. See Sudo, T., 2588. Hamilton, J. B. See Haslam, J., 2298.

Hamilton, P. B. Ion-exchange chromatography of amino acids. Effect of resin particle size on column performance, 3459.

Hamilton, T. See O'Hagan, J. E., 2325. Hamm, R. E. Alternating current and square-wave polarography, 1415. Square-wave polarograph, 2850. o-Aminobenzenethiol in inorganic

Hamm, T. E. analysis, 2074.

Hamner, W. F. See Daues, G. W., 715. Hancock, C. K., and Burdick, R. L. Rapid determination of water in wet soils, 1390.

Handa, H. See Kotakemori, M., 4300, and Shirota, N., 4196. Handa, K. L., Singh, Het, and Malhotra, M. K.

Assay of kurchi, 2369.

Handler, P. See Fridovich, I., 118. Handley, R. Determination of purity by cryoscopy at the Chemical Research Laboratory, 753.

- and Herington, E. F. G. Semi-micro zone melting apparatus, 1069.

Hands, G. C. See Dixon, B. E., 3175.
Handwerk, R. L., and Bird, E. W. Determination of unoxidised tocopherols in milk fat, 3520.
Hanewald, K. H. See Mulder, F. J., 998.

Hanker, J. S., Gelberg, A., and Witten, B. Fluorimetric and colorimetric estimation of sulphide and cyanide by demasking reactions of palladium chelates, 1827.

Hankins, B. E. Carrier precipitation of trace elements prior to spectrographic analysis, 3567.

— See also Pickett, E. E., 2020. Hankinson, C. L. See Sato, I., 697. Hanle, W. See Diebel, H., 318.

Hansen, J., and Hodgkins, C. R. Wet-ash spectrochemical determination of trace metals in petroleum fractions, 2704.

Hansen, N. R. Simple pulse spectrograph, 2444.
Hansen, P. W., and Dam, H. Paper chromatography and colorimetric determination of free and esterified cholesterol in very small amounts of blood, 2748.

Hansen, R. E. See Buell, M. V., 2452. Hansen, W. R., and Mallett, M. W. Determination

of oxygen in niobium, 1493.

Hanson, A. Estimation of iminazolylacetic acid in urine and its occurrence in urticaria pigmentosa,

Hanson, A. M. See Sanderson, W. W., 1006.

Hanson, C. K. Separation and determination of microgram quantities of tellurium in urine, 178. Hanson, K. R., and Whitaker, D. R. Detections of phenylthiohydantoins on paper chromatograms, 3097.

Hanssen, E., Ihlenfeldt, R., and Florian, G. Microscopical detection of spices and other plant elements in foods, 992.

elements in 100ds, 992.

Hanyo, A. See Uryu, T., 3035.

Hanzas, P. C. See Bauserman, H. M., 2775.

Happold, F. C. See Beechey, R. B., 214.

Hara, K. See Ito, T., 1121.

Hara, T. See Iwasa, K., 1599.

Harasawa, S., and Danjo, K. Paper chromatography. III. The effect of temperature on the serveration of amino acids, 1953. IV. The effect separation of amino acids, 1953; IV. The effect of changes in the constitution of solvent on the separation of amino acids, 1953.

and Hayano, S. Semi-quantitative determina-tion of a small amount of metal by paper chrom-II. Determination of gold in the atography. presence of a large amount of copper, 2896.

Harbutt, J. See Arden, T. V., 4099.
Hardcastle, E. See Powell, W. A., 1141.
Hardin, L. J. See Dean, J. A., 836.
Hardng, W. M. See Lansford, E. M., 3462, and Willms, C. R., 3853.
Hardon, H. J., Brunink, H., and Pol, E. W. van der.

Colorimetric determination of p-chlorobenzyl p-chlorophenyl sulphide [chlorbenside] as a spray

residue, 291.

Hardwick, D. C. See Adam, H. M., 3848.

Hardwick, J. L. See Fremlin, J. H., 2625.

Hardwick, W. H., and Moreton-Smith, M.

mination of uranium by solvent extraction. I. Separation of uranium-233 from irradiated thorium as the diethyldithiocarbamate complex, 2194.

— See also Clayton, R. F., 2194. Harel, S., and Talmi, A. Estimation of moisture and water or crystallisation by azeotropic distillation, 1112.

Harimaya, K. See Suzuki, S., 2969, 3196.
Harley, J., Nel, W., and Pretorius, V. Flameionisation detector for gas chromatography, 3949. Harlow, G. A., and Wyld, G. E. A. Potentiometric titration of very weak acids. Influence of titrant solvent, 1762. Resolution of acid mixtures in non-aqueous solvents. Potentiometric titration of dibasic acids with quaternary ammonium titrants, 1893.

Harnisch, O. Importance of the condition of the cathode in the electrometric oxygen determination in fluids after the method of Todt, 1078.

Harrap, K. R. See Morr, C. V., 1693. Harrap, K. R. See Bergel, F., 943.

Harris, W. E. Amperometric titration of fluoride with thorium using a rotating palladium electrode, 3338.

Harrison, R. See Bailey, D., 3293, and Belcher,

Harrisson, J. W. E., Abbott, D. D., Feinman, J. I., and Packman, E. W. Comparative in vivo methods for evaluating antacids in humans, 975.

Harrow, L. S. See Resnik, F. E., 1549. Hart, P. J. See Russell, G., 3050. Hart, R. W. See Smith, J. H. C., 3216.

Härtel, G. See Kärkkäinen, V. J., 648. Hartel, J. See Ritter, F. J., 4265.

Hartkamp, H., and Specker, H. Paper-chromatographic separation of cations. III. Calculation of R_F functions, 2086; II. Chromatographic behaviour of metal chlorides in the eluent system tetrahydrofuran - water - hydrogen chloride, 2095. See also Specker, H., 2869.

Hartmann, E. R. See Gerhardt, P. B., 589. Hartmann, H. See Schneer, A., 2583. Hartong, B. D. See Goedkoop, W., 2397.

Hartree, E. F. Accelerated spectrophotometry, 2449.

— See also Keilin, D., 3425.

Harva, O., and Keltakallio, A. Chromatographic determination of argon in gas analyses, 3264.

Harvey, C. O., and Murray, K. L. H. Spectrographic determination of rarer elements in silicates, 2561. Harvey, D., and Penketh, G. E. Determination of

small amounts of o-phenylphenol, 138.

Harvey, M. C. See Guedin, R. M., 1587, and Wilkerson, R. C., 3817.

Harwood, V. See Garrison, R. A., 2780. Hasegawa, M. See Yoshida, S., 722. Haselbach, C. See Iwasaki, I., 507. See Chibnall, A. C., 3465.

Haselbach, C. See Chibnall, A. C., 3400.

Hashimoto, J. Potentiometric analysis with rotating platinum-wire electrode. I. Characteristics of rotating platinum-wire electrode in practical use, 2854; II. Current equation for the

rotating platinum-wire electrode, 2854.

Hashitani, H. See Motojima, K., 2632, 3742.

Hashmi, M. H. Estimation of halogenated organic acids on paper chromatograms, 1894. Determination of methyl ketones by pH measurement, 9937

Haskin, J. F., Warren, G. W., Priestley, L. J., jun., and Yarborough, V. A. Gas chromatography. Determination of constituents in the study of azeotropes, 2228

Haslam, J. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Modern analytical chemistry in relation to the plastics industry, 2478.

and Hall, J. I. Semi-micro determination of chlorine in poly(vinyl chloride) and related

polymers, 3061

Hamilton, J. B., and Jeffs, A. R. Determination of poly(ethyl esters) in methyl methacrylate copolymers, 2298.

and Squirrell, D. C. M. Automatic titrimetry, 9. See also Clasper, M., 140, and Grossman, S., 2719. Hasler, M. F. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Complementary nature of X-ray fluorescence methods and optical emission methods in spectrochemical analysis, 1435.

Hasselmann, M. Micro-determination of quinine and quinidine in serum by means of the compound formed with Rose bengal, 2316.

Hasson, A. Extraction and characterisation of sympathomimetic amines, 1682.

Hastings, A. G. See Grantham, R. L., 3418.

Hattori, K. See Endo, Y., 383, 387.

Haughton, P. F., Fultz, C. R., and Burkhart, L. E.

Measuring uranium concentration in uranium aluminium alloy by y-counting, 3335.

Haupt, H. See Schönenberger, M., 1640. Hausdorff, H. H. Quantitative methods of gas chromatography, 3976.

Hauser, T. See Sawiki, E., 4197. Hausman, E. R., Lewis, G. T., and McAnally, J. S. Determination of uric acid, 2328.

Haussler, A. Micro-quantitative determination of alkaloids with Tropacolin OO, 1662.

Hautecler, M. See Watillon, A., 2458.

Haviř, J. See Vřeštál, J., 2169, 2199, 2494.

Hawke, J. C. Fatty acids of butter fat and the

volatile acids formed on oxidation, 1364.

Dunkley, W. L., and Hooker, C. N. Separation of fatty esters and aldehydes by gas-liquid chromatography, 1896.

Hawley, W. G. See Bennett, H., 4150. Hayakawa, T. See Emi, K., 2726. Hayano, S. See Harasawa, S., 2896.
Hayashi, K. See Iwasa, K., 1599.
Hayashi, N. See Takagi, T., 542.
Hayashi, T., and Endo, T. Determination of urea

injection with xanthhydrol, 4286.

Hayden, A. L., Ford, L. A., and Houk, A. E. H. Separation and determination of reserpine, deserpidine and rescinnamine by partition column chromatography, 4276.

Hayden, K. J., and Elkington, R. H. Determination of thiamine with 6-aminothymol, 1701.

Hayes, O. B., and Winterburn, J. Qualitative inorganic analysis. V. Interference of borate ion, 3591.

Hazel, J. F. See Brake, L. D., 2217. Headrick, A. F. See Hofer, L. J. E., 1049. Hecht, F. See Korkisch, J., 494, 3724.

Heckly, R. J. Electrolytically controlled device for dispensing liquids, 3561.

Heffelfinger, R. E., Chase, D. L., Rengstorff, G. W. P., and Henry, W. M. Analysis of high-purity iron, 1857.

Hegemann, F., Kostyra, H., and Pfab, B. Flamespectrometric determination of sodium and potassium with a buffering addition of barium chloride, 3607.

Kostyra, H., and Wilk, G. Quantitative spectrochemical determination of iron and titanium in kaolin with direct and alternating current arcs,

and Rüssmann, H.-H. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Quantitative spectral analysis of traces of contaminating elements in spectrographic carbon in the d.c. continuous arc, 1435.

Hegsted, D. M. See Carpenter, K. J., 1649.

Heicklin, L. See Wittner, R. F., 197. Heidel, R. H., and Fassel, V. A. X-ray fluorescent spectrometric determination of yttrium in rareearth mixtures, 2145.

Heijde, H. B. van der. Potentiometric titrations in non-aqueous solution. III. Directions for choosing solvent - titrant combinations, 2502.

Heilmann, J., Barrollier, J., and Watzke, E. Aminoacid determination on paper chromatograms, 3458.

— See also Barrollier, J., 3478. Heim, H. C. See Cox, B. C., 4293. Heinrich, B. J. See Nelson, K. H., 584.

Heinzelman, D. C. See Hoffmann, J. S., 1890, and Lime, B. J., 3188.

Heitler, C. Improved ebulliometer, 3221.

Heitner-Wirgin, C., and Shamir, J. Determination of stability constants of complexes by potentiometric titration, 2873.

Hejno, K. See Knobloch, E., 2294.
 Helander, E. Quantitative muscle-protein determination, 2743.

Helbert, J. R., and Brown, K. D. Colour reaction of anthrone with monosaccharide mixtures and oligo- and poly-saccharides containing hexuronic acids, 945.

Held, S., and Skalska, S. Determination of tracer quantities of boron in graphite by emission

spectrum analysis. II, 1143.

See also Skalska, S., 45, and Świętosławska, J.,

Helgren, P. F., Chadde, F. E., and Campbell, D. J. Determination of theophylline, pentobarbitone and papaverine in tablets by spectrophotometric analysis, 2762.

Theivagt, J. G., and Campbell, D. J. Determination of Tral [hexocyclium methylsulphate], a new

anticholinergic drug, 2769.

Hellendoorn, A. S. See Ligny, C. L. de, 374.

Hellmann, M., Alexander, R. L., jun., and Coyle,
C. F. Separation of isomeric polyphenyls by adsorption chromatography, 4199.

— See also Stewart, J. E., 4200. Helme, J. P., and Molines, J. Infra-red spectrum of linseed oil. Stand oils, alkyd resins and modified

oils, 1299.

Helmholz, H. R. Development of a coincidence spectrometer and a method for analysis of cobalt-60, 1164.

Helou, J. H. Determination of the ascaridole content of chenopodium oil. Formula for calculation of results using the method of Cocking and Hymas, 962.

Helwig, H. L., Reilly, W. A., and Castle, J. N. Concentrating and determining iodide in urine,

Hemphill, H. L. See Kelley, M. T., 1725. Henderson, E. H., Owers, M. J., and Webb, M. S. W. Spectrochemical determination of lithium in

Cornish china clay, 785.

Hendrickson, M. J., Berueffy, R. R., and McIntyre, A. R. Radial paper chromatography. Analysis of mixtures of chlorophyll derivatives, 1713.

Hendriks, W. J., Soemantri, R. M., and Waterman, Separation of mixtures of diphenyl, cyclohexylbenzene and dicyclohexyl by vapourphase chromatography, 2262.

Henicksman, A. L. Colorimetric determination of

titanium in uranium, 441.

Hennart, C., and Merlin, E. Application of anhydrous alkalimetry to the determination of the epoxy group, 117. Application of chelatometry to the determination of fluorine in organic compounds, 2666. Determination of the thionyl group in organic compounds, 2669. Application of chelatometry to the determination of oxalic esters and mono-ester chlorides, 3025. Propionic acid as a solvent in alkalimetry in non-aqueous medium, 3248. Application of anhydro-titri-metry to the determination of benzotriazoles, 4209.

Henning, J. M. See Glasgow, A. R., jun., 568. Henning, U. See Ammon, R., 3447.

Henry, R. J., and Berkman, S. Absorbance of various protein-free filtrates of serum, 1600.

Sobel, C., and Berkman, S. Determination of

"pancreatitis lipase" in serum, 213. Interferences with biuret methods for serum proteins. Benedict's qualitative glucose reagent as a biuret reagent, 952

See also Sobel, C., 3479. Henry, W. M. See Center, E. J., 1150, and Heffelfinger, R. E., 1857.

Hensel, R. P., and Jones, S. A. Automatic unit for determination of volatile matter in coal, coke and char, 2707.

Herb, W. See Venner, H., 863, 864. Herbo, C., and Sigalla, J. Principles of absorptiometric iodimetry, 1759.

Herbst, R. M., and Stone, K. G. Iminotetrazolium salts. Identification of sulphonic acids, 2694.

Hercules, D. M., and Rogers, L. B. Fluorimetric determination of 1- and 2-naphthol in mixtures, 1912.

Herington, E. F. G. Considerations governing the choice of method for purity determinations by cryoscopy, 752. Analytical uses of pentacyanoferrate complexes, 1753.

— See also Handley, R., 1069.

Herling, J. See Gil-Av, E., 2695.

Hernandez, H. H., and Chaikoff, I. L. Purification and properties of pancreatic cholesterol esterase. Determination of enzymic activity, 1960.

Hernández-Gutiérrez, F. Analytical method for diphenylthiourea, 144.

— See also Moreno Martín, F., 271. Hernando Fernández, V. See Burriel-Martí, F., 1224

Herniman, P. D. See Hall, G. R., 834.

Herold, P. G. See Frad, W. A., 2564. Heron, J. R. Determination of nitrogen in barley and malt, 986.

Herreid, E. O. See Murthy, L., 3897, 3898.

Herrman, W., and Silverman, L. Determination of urinary pregnanetriol, 3864.

Herrmann, M. See Bock, R., 2451. Herscher, L. W., Ruhl, H. D., and Wright, N.

Optical null infra-red spectrophotometer, 3571. Hervier, B. See Chateau, H., 2204.

Herzenberg, L. A. See Mitchell, H. K., 331. Herzog, A. G. See Unger, E. H., 2034. Hesford, E. Adsorption columns for effecting

precipitation separations, 1429.

Hesse, P. R. Effect of colloidal organic matter on the precipitation of barium sulphate; determination of soluble sulphate in soils, 2023.

Heumann, W. R., and Belovic, B. Cerimetric titration of iron using a mixed indicator, 514. Heusgham, C., and Jehotte, J. M. Identification

and estimation of ethinyloestradiol in pharmaceutical preparations, 1353.

Hewaidy, I. F. See Issa, I. M., 2205.

Hey, M. H. Chemical analyses of minerals, 4148.

Hey, M. H. Chemical analyses of inflictations, 1745. Heyndryckx, P. See Lacourt, A., 780. Heynis, J. W. Y. See Maurice, M. J., 1742. Heyns, K., Walter, W., and Hyde, W. Glucuronic acid and fucose in human milk; the quantitative determination of glucuronic acid by the 1:3-dihydroxynaphthalene reaction, 946.

Heyrovský, A. Analytical use of tetraphenylborates, 3965. Potentiometric and amperometric titra-tions with tetraphenylboron compounds. I. Argentimetric determinations, 3250.

Heyrovský, J. Cathode-ray oscillograph in polarography with alternating current, 1096. New trends in polarography, 1438.

Hibbits, J. O. Precision of the pyrohydrolytic determination of fluoride and uranium in uranyl fluoride and uranium tetrafluoride, 1507.

Hickman, J. See Ashwell, G., 194. Hicks, P. R. See Read, E. B., 3262.

Hietala, P. K., and Virtanen, A. I. Quantitative determination of 2(3)-benzoxazolinone from rye seedlings, 3550.

Higgins, C. E. See Baldwin, W. H., 2682.

Higgons, D. J., and Toms, A. Colorimetric analysis of the isomers of tetrachloronitrobenzene and evaluation of deposits on the soil obtained from smokes of the 2:3:5:6-isomer (tecnozene), 292. Higuchi, T. See Revin, J. L., 1377, and Szulczewski, D. E., 778. Hiiro, K. See Muraki, Isao, 402.

Hildebrand, G. P. See Golby, R. L., 2312. Hildebrecht, C. D. Colorimetric method for determining minute quantities of chloroform in carbon tetrachloride, 122.

Hilgers, A. Flame-photometric estimation of sodium, potassium and calcium in urine, 933.

Hill, S., and Dobbs, A. G. R. Determination of water in granulated sugar, 2773.

Hill. U. T. Photometric determination of beryllium,

Hill, W. H., Merrill, J. M., and Larsen, R. H. Colorimetric determination of boron - hydrogen compounds with molybdophosphoric acid, 1138.

Hill-Cottingham, D. G. Spectrophotometric determination of iron chelates. II, 102. Spectroscopic analysis of chelate solutions; iron chelates in soils and plants, 2024.

Hindin, S. G., Lee, James K., and Weller, S. W. Carbon - hydrogen analysis of coke on catalysts, 1574.

Hinds, G. P., jun. See Ogilvie, J. M., 1764.

Hinsvark, O. N., and O'Hara, F. J. Determination of total sulphur in petroleum products. Combustion and disodium ethylenediaminetetraacetate titrimetric method, 903.

Hintzenstern, G. von. See Kamphenkel, L., 4170.

Hirahara, K. See Seligson, D., 617. Hirai, E. See Mizukami, S., 1566.

Hiraizumi, T., and Komatsu, A. Determination of camphor in Ho-leaf oil, 914.

Hirano, S., and Igami, E. Determination of iron in brine, 3739.

- and Kawaguchi, H. Determination of phosphate in ore and calcium superphosphate, 3681.

— See also Suzuki, Masami, 2912, 3627. Hirata, F., and Takiguchi, T. Volumetric determination of chlorine in methylchlorosilanes and phenylchlorosilanes, 3012

Hirayama, O. See Inoue, Y., 3167. Hiroaka, E. Chemical assay of histidine in commercial preparations of histidine, 2368.

Hiroaki, Z. See Komatsu, S., 399. Hirokawa, K. See Gotô, H., 2157.

Hirsch, A., and Cattaneo, C. Comparative investigation of quantitative estimations of plasma fibrinogen, 940.

Hirt, G. See Soleil, J., 129.

Hirt, R. C. Review of industrial applications of analysis, control and instrumentation.] Ultraviolet spectrophotometry, 2867.

Hissel, J. Coulometric determination of the oxidis-

ability of a water sample, 2416.

Bartholome, C., Dethier, M., and Pire, J. Isolation, separation and determination of amino acids in trade waste-waters by paper chromatography, 2421.

Hissink, M., and Kreulen, D. J. W. Moisture test of coal in relation to sampling and analysis, 1288.

Hivon, K. J., and Quackenbush, F. W. Analysis of corn oil for total tocopherols, 2000.

Hjarde, W. See Barnholdt, B., 2799. Ho, J.-Y. C. See Billman, J. H., 1889.

Hoban, N., and White, J. W., jun. Gradient elution of disaccharides on a stearic acid-treated charcoal column, 4176.

See also White, J. W., jun., 3018.

Hobbs, A. P. Review of industrial applications of analysis, control and instrumentation.] Gas analysis, 2867.

Hobbs, M. E. See Quin, L. D., 3114.

Hobson, J. D. Analysis of carbides extracted from steel, 1862.

Hoch, H., and Williams, R. C. Dialysis as an analytical tool, 4357.

Hochenegger, M. See Flaschka, H., 1250.

Hocheiser, S. See Jacobs, M. B., 1001, 2801. Hocke, H. See Bohme, H., 1330. Hodecker, J. H. See Fleischer, K. D., 2226, and Southworth, B. C., 4162. Hodgkins, C. R. See Hansen, J., 2704. Hoeke, F., and Cats, H. Identification and quanti-

tative determination of diphenyl and thiourea in orange peel, 3522.

Hoens, M. F. A., and Smit, J. A. [Colloquium Spectroscopicum Internationale VI. Amsterdam. 1956.] Stabilisation of the vaporisation of the filled cathode in a d.c. carbon arc, 1435.

Hoering, T. See Good, M. L., 3733. Hofer, L. J. E., Damick, A., Headrick, A. F., Fauth, F., Bean, E. H., and Golden, P. L. Extrusion of cylindrical specimens for X-ray powder diffraction analysis, 1049.

Hoffman, A. J. See Ludwig, B. J., 2317. Hoffman, D. E. See White, C. E., 51.

Hoffman, I., Schnitzer, M., and Wright, J. R.

Thermogravimetry of soils, 3929.

Hoffman, S., Paul, V., and Jacob, B. Paperchromatographic analyses of some intermediate products for the dyestuff industry, 3808.

Hoffmann, D. C. See Smith, H. L., 423. Hoffmann, J. S., O'Connor, R. T., Heinzelman, D. C., and Bickford, W. G. Procedure for preparing α- and β-elaeostearic acids and a spectrophotometric procedure for their determination, 1890.

Hoffmann, W. See Umland, F., 1788. Hoffpauir, C. L. See Pons, W. A., jun., 2816. Hoftiezer, H. See Bohon, R. L., 2276. Högl, O. See Sulser, H., 2404.

Hohensee, F., and Huttenrauch, R. Application of colour reactions to the identification of some

progesterone derivatives, 3475. Hojnacka, A. See Młodecka, J., 132. Holasek, A., and Fries, J. Separation of the higher

fatty acids and their glycerides by paper chromatography, 1376.

matography, 1376.
— See also Flaschka, H., 1942.
Holbrook, W. F. See Freund, H., 2949.
Holdsworth, E. S. See Gregory, M. E., 192.
Holer, J. See Čelechovský, J., 2624.
Holeyšovský, V. See Mikeš, O., 1632.
Hollenbeck, C. M. See Bechtel, W. G., 3913.

Hollingworth, R. P. Spectrophotometric determination of fluorine in rocks, 502.

Holló, J., Gál, I., and Sütö, J. Chromatographic determination of capsaicin in paprika oil and paprika products, 3164.

Holmes, A. H. See Stone, W. K., 1988.

Holmes, D. C. See Fraser, J. R., 3151. Holmes, D. G. Absorptiometric determination of traces of iron in bismuth, 78.

Holmes, J. C., and Morrell, F. A. Oscillographic mass-spectrometric monitoring of gas chromatography, 336.

 See also Resnik, F. E., 1549.
 Holness, H., and Stone, W. R. Separation of quaternary halides by paper chromatography, 2254. Holthaus, J. M. See Humoller, F. L., 1659, 3489. Holubek, J., and Volke, J. Polarographic determination of individual constituents in cotarnine narcotine and hydrastinine - hydrastine mixtures,

Holzbecher, Z. Luminescence in analytical chemistry, 3980.

Holzmann, R. T. See Sun, S.-C., 885, 4308.

Honegger, C. G. Combined paper ionophoresis and paper chromatography, 312.

Hong, L., and Wright, L. D. Paper chromatography of mevalonate and acetate, 2329.

Honig, J. M. See Czanderna, A. W., 293.

Hood, A. Standardisation of mass spectra by means of total ion intensity, 4401.

Hooker, C. N. See Hawke, J. C., 1896.

Hope, R. P. Colorimetric determination of molybdenum in scheelite ores and concentrates, 86. Hopkins, R. L. See Mikkelsen, L., 2701.

Hopp, G. See Finholt, P., 3909.

Hoppe, W. See Gad, G., 279.

Hopson, J. V. Infra-red quantitative analysis data.] Determination of cumene and α-methylstyrene in crude a-methylstyrene, 3069.

Horaček, J., and Grünberger, D. Determination of carbon-14, 2563.

- and Körbl, J. Analytical application of silver VIII. Micro- and semi-micro permanganate. determination of carbon and hydrogen in organic compounds containing fluorine, 2661. Silvercontaining catalysts for elementary combustion analysis, 3358.

Horák, F., and Gašperík, J. Quantitative determination of ephedrine by alkaline hydrolysis, 2365.

Hordis, C. K., and Kowkabany, G. N. Material deposited along path of chromatographed sugar spot, 4172.

Hori, T. See Yamaguchi, S., 2631.

Horiie, S. Indole and its derivatives. III. Quanti-

tative determination of indole, 4208.

Horioka, M. Colorimetric determination of organic base preparations with sulphonephthalein dyes. I. Light absorption and partition coefficient of various sulphonephthalein dyes, 1670; II. Determination of sympathomimetic amines in pharmaceutical preparations, 1670.

Horiuchi, Y., and Saito, M. Determination metals with 2-o-hydroxyphenylbenzoxazole. Determination of Gravimetric determination of copper, 367.

Hörmann, H. See Grassmann, W., 1309. Horn, G. C. Some factors affecting the accuracy of the flame-spectrophotometric determination of magnesium in soils, 726.

Hornstein, I. Colorimetric determination of toxaphene, 729. Spectrophotofluorimetry for pesti-

cide determinations, 3556.

Horowitz, R. M. Detection of flavanones by reduc-

tion with sodium borohydride, 3187.

and Atkinson, L. F. Paper-strip holder for absorption spectroscopy, 1057.

See Glasgow, A. R., jun., 568.

Horton, A. T. See Glasgow, A. R., jun., Horwitz, W. See Sager, O. S., 980. Hoshino, Y. See Ko, T., 1121. Hosogai, Y. See Kawata, K., 1995. Hospelhorn, V. D. See Grisolia, S., 3846.

Hoste, J. See Coryn, G., 3209.

Houck, J. C. Micro-determination of ribonuclease,

Houda, M., Körbl, J., Bažant, V., and Přibil, R. Complexometric titrations (chelatometry). XXXV. Indirect determination of aluminium with xylenol orange, 2914.

Houff, W. H., Christie, D. R., and Beaumont, R. H. Analysis of aromatic sulphonation reaction mixtures, 1568.

Houghton, G. U. Colorimetric determination of zinc in water using Brilliant green and thio-Colorimetric determination of cyanate, 3538.

Houghton, N. W. Determination of trace amounts of combined and elementary sulphur in petroleum fractions, 901.

Houk, A. E. H. See Hayden, A. L., 4276.

Houk, W. W. See Silverman, L., 1227, 1526, 3342. Householder, R. D. See Center, E. J., 1150. Howard, H. E. See Ferguson, W. C., 2702. Howard, J. H. Resin identification on textiles,

1931.

Howard, L. E. Isotope dilution: α-spectrometer for uranium and thorium determination, 3725.

Howell, D. E. See Toren, P. E., 2809. Hower, J. See Burnham, H. D., 2059. Hoyme, H. See Philipp, B., 166, 3056.

Hrdý, O., and Petříková, H. Photometric determination of 3-aminophenol in 4-aminosalicylic acid. 2377.

and Urbanová, L. Photometric determination of pyridoxine in pharmaceutical preparations, 2374

Hromatka, O., and Stentzel, L. Quantitative determination of phytol, 4336.

Hsu, C.-H. Identification of non-volatile acids in plant tissues by paper chromatography, 4334. Hsü, J.-C. See Chou, Y.-Y., 254.

Hsu, K.-H. See Kao, S.-S., 4400. Hsu, Y.-C. See Chang, C.-H., 227. Hu, P. M., and Parsons, R. W. Thermostat using a resistance thermometer and a galvanometer photocell amplifier, 1741.

Hubbard, R. L., Haines, W. E., and Ball, J. S. Quantitative determination of organic disulphides, 1921.

Huber, C. O., and Shain, I. Constant-current potentiometric determination of manganese, 511.

— See also Shain, I., 4389.

Huber, E. See Zeif, M., 1338.

Huber, H. See Kainz, G., 1540.

Hubert-Habart, M. See Muel, B., 3399.

Hublek, K. Amperometric determines

Hubicka, K. Amperometric determination of ascorbic acid with potassium ferricyanide, 1379. Hudeček, S., and Beranova, D. Quantitative

chromatography of phenols and its application in the analysis of phenolic resins, 2301. Hudgens, J. E., Meyer, R. C., Zyskowski, C., and

Nelson, L. C. Determination of radium in ores and residues, 1132.

Hudgens, J. E., jun. See Moore, F. L., 1510. Hudson, R. L. [Infra-red quantitative analysis data.] Determination of diethylaluminium hydride and diethylaluminium ethoxide in triethylaluminium, 1587.

Huerta Ortega, J. A., and Candela Candela, J. Volumetric determination of the 4-aminosalicylate of isoniazid, 3138

Huff, G. A. See Shank, R. C., 2474.
Hughes, E. B. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Analysis and food, 2478.

Analysis and 100d, 2478.

Hughes, E. E. See Weaver, E. R., 3173.

Hughes, E. R. See Ely, R. S., 3481.

Hughes, J. T. See Read, W. H., 2029.

Hughes, M. See Bailey, P. H., 3544.

Hughes, R. H. See Saier, E. L., 3015.

Hugh-Jones, P. See Fowler, K. T., 335.

Huisman, T. H. J. Recent developments in aminoacid and protein chromatography by means of ion exchangers, 2342.

and Prins, H. K. Chromatographic behaviour of abnormal human haemoglobins on the cation exchanger Amberlite IRC-50, 1644.

Huliwaka, H. See Suzuki, Yukio, 1499.
Hully, J. W. See Siegler, E. H., jun., 1435.
Hull, D. E. Effect of temperature on the precision and performance of a microchemical balance,

Hultman, E. See Ek, J., 3379, 4231. Hultschig, M. See Kögler, H., 738.

Hume, D. N. [Review of industrial applications of analysis, control and instrumentation.] Polarographic theory, instrumentation and methodology, 2867.

Hummel, D. Infra-red spectroscopic analysis of varnish films on wire, 172.

Hummel, R. W. Determination of gold in sea water by radio-activation analysis, 35.

Humoller, F. L., Holthaus, J. M., and Walsh, J. R. Colorimetric determination of glutamic - oxalacetic transaminase activity, 1659.

Majka, F. A., Barak, A. J., Stevens, J. D., and

Holthaus, J. M. Determination of plasma amine

oxidase activity, 3489.

Humphlett, W. J. Automatic receiver for continuous vacuum-distillation, 303.

Humphreys, J. R., jun., Sampling and analysis for impurities in liquid sodium systems, 3995.

Humphries, R. See Arden, T. V., 4099. Hunt, P. D. See Radell, J., 4161. Hunt, R. H. See Davis, C. E., 1113. Hunter, G. Micro-determination of magnesium in

presence of known amounts of calcium, 2124.

Hunter, I. R., and Potter, E. F. Micro-determination of volatile aldehydes, 2234.

Hurlock, B., and Talalay, P. Principles of enzymic measurement of steroids, 665.

Huston, R. P. See Johnson, C. M., 3928.

Hutchinson, K., and Boltz, D. F. Spectrophotometric determination of nitrite and thiourea. 1812.

Hutner, S. H., Cury, A., and Baker, H. [Review of industrial applications of analysis, control and instrumentation.] Microbiological assays, 2867.

Huttenrauch, R. See Hohensee, F., 3475. Hüttig, E. See Kühnhanss, G., 1283, 2279. Hutton, G. C. See Fudge, A. J., 1924.

Hutton, R. G., and Nye, P. H. Determination of the major nutrient elements in plants, 3545. Hyde, K. R. Micro-pipette for remote handling

operations, 1019.

Hyde, W. See Heyns, K., 946.

I

Ibadov, A. Yu., and Beseda, G. A. Iodimetric method for the determination of "Étazol" [2-(p-aminobenzenesulphonamido)-5-ethyl-1:3:4thiadiazole], 3137.

Ibert, E. R. See Beckman, H. F., 3934. Icha, F. See Volková, V., 1675.

I-djen, H., and Kung-soo, C. [Colloquium Spectro-scopicum Internationale VI. Amsterdam, 1956.] Effect of microstructure of the specimen on the spectrochemical analysis of steels, 1435.

Shih-cho, L., and Thang-soo, W. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Spectrographic analysis of slags by the cup-electrode solution arc method, 1435.

Ieki, T. See Mizukami, S., 3009. Igami, E. See Hirano, S., 3739.

Ignatenko, L. S. See Fedoseev, P. N., 3764. Ihlenfeldt, R. See Hanssen, E., 992. Iinuma, H., and Yoshimori, T. Coulometric determination of molybdenum compounds. I. Determination of molybdenum and phosphorus, 3714.

Yoshimori, T., and Takeuchi, Hironori. Determination of a small amount of boron by coulometric titration. I. Acid - base titration in the presence of mannitol, 3643.

Liyoshi, K. See Fukamauchi, H., 425.

Ijichi, K. See Snell, N., 1968. See Zeitlin, H., 4354.

 Ikeda, G. See Zeitlin, H., 4304.
 Ikeda, N. See Kimura, K., 3704.
 Ikeda, Sasiti, and Nagai, Hiroshi. Photometric determination of copper in metallic tin by the diethyldithiocarbamate method, 3621.

Ikeda, Shigero. Flame-spectrochemical analysis. VI. Determination of strontium, 2097; VII. Determination of chromium, 2097; VIII. Selfinterference and mutual interference of alkali metals, 2097; IX. Interaction of alkaline-earth metals, 2097; X. Interferences of phosphoric and sulphuric acids and chromium on alkaline-earth metals, 2097; V. Determination of manganese. 2985.

See also Gotô, H., 4070.

Ikegami, A. See Sato, Torao, 2905.

Ikekawa, N. See Shindo, H., 1564.

Il'ina, E. V. Spectrographic determination of metallic impurities in oils, 2705.

Illing, G. Paper-chromatographic separations with cation-exchange papers, 3204.

Imai, K. See Ohira, T., 953.

Imai, Takuya, and Nagumo, S. Photo-electric colorimetric determination of nickel in ferro-alloys, 1528. Photometric determination of chromium in ferro-alloys with diphenylcarbazide,

Imai, Teruo, and Seto, K. The collector in analytical chemistry. I. Colorimetric determination of traces of cobalt with aluminium hydroxide as collector, 3754.

Imperato, A. A. See Kinnory, D. S., 3079.

Inarida, M. See Kimura, K., 3704.

Ingamells, C. O., and Bradshaw, W. S. Determination of manganese in ferromanganese and tungsten tool steels, 4114.

Ingberman, A. K. bromination, 3394. Functionality of phenols by Ingles, O. G. Relative rank of Victorian brown coals.

See also Casamento, P., 155.

Inglis, A. S. Micro-determination of alkoxyl groups, 1545. Micro-determination of acetyl groups, 3770.

Ingols, R. S. See Walter, C. F., 2849.

Innes, D. D. Spectrographic analysis of some minor constituents in refractories, 4151.

Inoue, S. See Yamagishi, M., 3042.

Inoue, Y., Hirayama, O., and Noda, M. Separation and identification of fatty acids. XXII. Quantitative analysis of fatty acids by paper chromatography, 3167.

Instituto Nacional del Combustible. Determination of nitrogen in coal by the Kjeldahl method, 908.

Intonti, R., Pfundt, H., and Lais, A. [Seminar of the Centro Ricerche Spectrochimiche of the Associazione Italiana di Metallurgia.] Effective line width as a measure of intensity, 15.

Ioffe, B. V., and Sergeeva, Z. I. Determination of carboxylic acid amides by saponification, 1262.

Ioffe, V. P. See Zaichikova, L. B., 1806.

Ionescu, M., and Goia, I. Volumetric microdetermination of halogens in organic substances,

Iordanov, N., and Kocheva, L. Determination of small quantities of lead in minerals and rocks,

Iorga, N. See Ralea, R., 4134.

Iovchev, A. See Rankov, G., 3776, 3777.

Ipata, P. L. See Cerletti, P., 643. Iredale, P. See Peirson, D. H., 2070, 2863.

Iritani, N., and Tanaka, T. Volumetric analysis of mercuric salts with EDTA. II. Determination of mercuric sulphide, oxycyanide and salicylate, phenylmercuric acetate and sodium ethylmer-curithiosalicylate, 1137. Determination of sul-phate ions with EDTA. I. Volumetric determination of sulphate ions with barium - EDTA complex, 3702.

Tanaka, T., and Sakai, E. Volumetric analysis of mercuric salts with EDTA. I. Determination of mercuric chloride, mercury, mercuric oxide, mercurous chloride and ammoniated mercury,

Irvine, J. W., jun. See Schindewolf, U., 3581. Irvine, L., and Mitchell, T. J. Gas - liquid chromatography. I. Retention-volume data of certain tar acids, 3393.

Irving, H., Smit, J. van R., and Salmon, L. Determination of indium in cylindrite by neutronactivation analysis and other methods, 412.

See also Smales, A. A., 411. Irwin, L. See Jackson, W. P. V., 3073. Isaac, R. See Bohon, R. L., 2276.

Isábal Gracia, R. See González Sánchez, F., 911. Isakova, N., and Mireva, S. Volumetric determination of aluminium in clays with 8-hydroxyquinoline without preliminary removal of silicic acid,

Isbell, H. S., Frush, H. L., Bruckner, B. H., Kowkabany, G. N., and Wampler, G. Micro-methylation of polysaccharides, 870

See also Moyer, J. D., 1685, 1801.

Ishibashi, Masayoshi, and Fujinaga, T. Currentscanning polarography at the dropping mercury electrode, 3236.

Fujinaga, T., and Saito, C. Amperometric titration. (The positive electrode and its application to bromimetry.) VII. The use of a non-polarisable electrode of high positive potential, 4391; VIII. Determination of arsenite with bromate with a lead dioxide electrode, 4391.

Shigematsu, T., and Nishikawa, Y. Fluorimetric analysis. V. Determination of gallium with 8-hydroxyquinaldine, 2140; VI. Determination of gallium, indium and beryllium by successive extraction, 2140. Fluorimetric determination of aluminium with Pontachrome blue-black R,

Shigematsu, T., Yamamoto, Yuuroku, Tabushi, M., and Kitayama, M. Ultra-violet spectrophotometric determination of iron III as acetato complex, Ultra-violet spectrophotometric determination of iron¹¹¹ as a chloro complex, 1854.

Ishibashi, Michihiro. See Funasaka, W., 3781.
Ishihara, Y., and Taguchi, Y. Spectrophotometric determination of copper in non-ferrous metals with neocuproin, 2525. Determination of a trace of phosphorus in germanium oxide, 2932.

Ishikawa, H. See Sakamaki, I., 2684.
Ishikura, S. See Akiya, S., 3142.
Ishimori, T., and Takashima, Y. Radiometric determination of lead with thallium-204, 436.

Ish-Shalom, M., Fitzpatrick, J. D., and Orchin, M. Quantitative analysis by ultra-violet spectrophotometry. The cis-trans stilbene system,

Iskanderova, A. D. See Murina, G. A., 29.

Isobe, I. See Kono, T., 3011.

Isono, K. Photometric determination of small amounts of nickel in ores, 2653.

Isono, M., and Yoshino, K. Oxidative metabolism of phenylacetic acid by Penicillium chrysogenum O 176. XI. Colorimetric micro-determination of phenylacetic acid, 1267.

Issa, I. M., Issa, R. M., Hewaidy, I. F., and Omar, E. E. Polarographic analysis. I. Determination of manganese after oxidation to the manganic state stabilised by triethanolamine, 2205.

Issa, R. M. See Issa, I. M., 2205.
Issaly, A. S., Pennimpede, F. C., and Issaly, I. S. M. de. Determination of histamine and histidine in bacterial cultures, 2740.

Issaly, I. S. M. de. See Issaly, A. S., 2740.
Issoire, J. Adaptation to plant control of the method of analysing mixtures of ammonia and methylamines, 3784.

Itai, T., and Kamiya, S. Analysis of mixed prepara-tions. I. Assay of phenacetin by the formation

of indophenol, 3132.

Ito, Akira, and Amakasu, O. Quantitative analysis of steroid preparations by i.r. spectroscopy, 3126.

Ito, Akiyoshi. Determination of sodium naphtha-lene-1- and -2-sulphonates by infra-red spectroscopy, 2275.

Ito, K. See Tanaka, Y., 2890. Ito, M. See Kawatani, T., 1673.

Ito, T., Hoshino, Y., and Hara, K. Polarographic determination of cuprous ions in copper sulphate solution, 1121.

Ito, Y. See Matsui, R., 554.

Ivanova, I. I. See Moldavskii, B. L., 577. Ivanova, V. A. See Vinogradova, E. N., 2098. Ivanova, Z. I., and Kovalenko, P. N. Zinc phosphate electrode in potentiometric analysis, 758.

Ivanovsky, L. Analysis and evaluation of polishes, 3065

Ivković, V., Golubović, V. B., and Šaper, R. P.
Phenolquinolinein, a new indicator, and its dissociation constants, 2080.

Ivoilov, A. S., and Losev, N. F. Quantitative X-rayspectrographic determination of titanium by secondary spectra, 4043.

Ivonina, O. M. See Pshenitsyn, N. K., 1530.

Iwanoff, T. Semi-micro methods for chemical and

industrial hygiene control of technical operations,

 Iwantscheff, G. Dithizone procedures in chemical analysis. Review, 5.
 Iwasa, K., Hara, T., Hayashi, K., and Tokui, T. Concentration of chlorpromazine in human blood and its elimination in urine, 1599.

Iwasaki, I., Hagino, K., and Utsumi, S. Spectrophotometric determination of small amounts of sulphate ions. II. Use of barium chromate suspension in an acid solution, 4079.

Katsura, T., Yoshida, M., and Tarutani, T. Analysis of magnetite and ilmenite, 519.

Utsumi, S., Hagino, K., and Ozawa, T. Spectrophotometric determination of small amounts of sulphate ions. III. Colorimetric determination of traces of sulphate ions in natural water, 4079.

Utsumi, S., Hagino, K., Tarutani, T., and Ozawa, T. Spectrophotometric determination of small amounts of sulphate ions, 2971. Spectrophotometric determination of small amounts of sulphate ions. I. Use of solid barium chromate or a hydrochloric acid solution of barium chromate, 4079.

Utsumi, S., and Ozawa, T. Colorimetric determinations with thiocyanates. XIV. Microdetermination of iodide by its catalytic action. Effect of various ions and the mechanisms of the

reaction, 507.

Utsumi, S., Ozawa, T., and Hasegawa, R. Colorimetric determinations with thiocyanates. XIII. Spectrophotometric determination of small amounts of chlorine, cyanide and thiocyanate in admixture, 507.

Iwase, A. Polarographic behaviour of the chloro and cvano complexes of germanium, 430.

Iwata, M. See Endo, Y., 2603. Izáková. K. Complexometric determination of magnesium and calcium in samples containing a higher content of magnesium, 2127.

Izmailov, N. A. See Shkodin, A. M., 7.
Izumi, G., and Yamada, Y. Quantitative analysis of hydroxamic acids by paper chromatography, 2252. Quantitative paper chromatography of aliphatic aldehydes by hydroxamic acid method,

Jackman, M. I. See Griffiths, V. S., 3179. Jackson, G. E. P. See Lime-Sand Mortar, Ltd., 2833. Jackson, P. J. Determination of ferrous iron in pulverised-fuel ash and slags from pulverisedfuel-fired boilers, 2636.

Jackson, R. K., and Brown, J. G. Determination of zinc in plant material without use of organic

solvents, 282.

Jackson, W. P. U., and Irwin, L. Estimation of calcium in urine by flame photometry; a note on the estimation of sodium and potassium, 3073.

Jackwerth, E. See Specker, H., 2869.

Jacob, B. See Hoffman, S., 3808.

Jacob, L. N. See Mohler, E. F., jun., 1007.

Jacobs, M. B., Braverman, M. M., and Hochheiser, S. Ultra-micro determination of sulphides in air.

- and Hochheiser, S. Continuous sampling and ultra-micro determination of nitrogen dioxide in air, 2801.

Jacobs, S. L. See Sobel, C., 3479.

Jacobsen, E. Determination of 2-methylpentane2:4-diol ("hexylene glycol") in the urine of man and rats, 3828.

See also Kolthoff, I. M., 841.

Jacobson, J. B., and Astrachan, L. Micro-determination of pyridine nucleotides and pyridine nucleotide enzymes, 947.

Jacobson, N. W., and Miller, J. Vacuum multifraction collector, 2836.

Jacobson, S. D. See Ressler, N., 2349. Jacquignon, P. See Buu-Hoi, N. P., 2263. Jäger, W. See Krächter, H., 2214. Jakab, G. See Brenner, M. W., 2396.

Jakubee, I., Lašková, V., and Slámová, E. Paper chromatography in the control of mixtures of pharmaceuticals, 216.

Jakubke, D. 5-Hydroxy-4-azaphenanthrene for the quantitative determination of copper, 3617.

James, A. T. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Analysis in medical research, 2478. Separation and identification of saturated and unsaturated fatty acids from formic to C20 by means of gas liquid chromatography, 3168.

James, T. W. See Levedahl, B. H., 2332.

Janák, J. Chromatographic methods of gas analysis, 2090. Trends in gas chromatography, 3977.

Nedorost, M., and Bubeníková, V. Chromatographic semi-micro analysis of gases. XIII. Separation of chlorine, bromine and iodine, 96.

and **Novák**, **J.** Chromatographic semi-micro analysis of gases. XIV. Direct determination of individual gaseous paraffins and olefins in buta-1:3-diene, 2673.

and Tesařík, K. Chromatographic semi-micro analysis of gases. XV. Automation of the measuring unit of a gas-chromatography apparatus, 2826.

 Janata, V. See Knobloch, E., 1010.
 Jancik, F., and Budēšinský, B. Determination of dimethyl phenylmalonate in presence of dimethyl ethylphenylmalonate, 2271.

Buděšínský, B., and Činková, O. Determination of 6-mercaptopurine, 250.

Kraus, E., Buděšínský, B., and Činková, O. Determination of 4-n-butyl-1: 2-diphenylpyrazolidine-3:5-dione [phenylbutazone], 246.

See also Buděšínský, B., 2679, and Knobloch, E., 1010. 1.3

Janecke, H., and Senft, G. Determination of the cholesterol and "isocholesterol" content of wool

Janković, S. D. See Jovanović, M. S., 2177.

Jankovits, L. Volumetric determination of tervalent iron by triphosphoric acid, 1212. and Erdey, L. Determination of calcium, with

Eriochrome red B as indicator, 3631.

Jankovský, J. See Kšír, O., 3700.

Janok, J., and Kemka, R. Organic phosphorus-containing insecticides. II. Enzymic deter-Enzymic determination of small amounts in the air, 732.

Jánosi, A. See Farády, L., 113.
Jarabin, Z. See Szarvas, P., 341.
Jaroszewicz, L. See Czerepko, K., 170.
Jasinski, T., and Pawelczak, I. Titration of phenazone in non-aqueous solution with colour indicators, 1344.

Jaudon, E. See Boulin, R., 2993.
 Jayle, M. F. See Baulieu, E. E., 3867, and Weinmann, S. H., 671.

Jedrzejczyk, B. See Turowska, A., 3408, 3409. Jeffery, P. G. Photometric determination of

molybdenum in tungsten ores. Jeffs, A. R. See Haslam, J., 2298.

Jehotte, J. M. See Heusgham, C., 1353.

Jelić, N. See Šušić, M. V., 828.

Jellinek, O. See Bognár, J., 2623. Jenik, J. Mineralisation of organic compounds with magnesium. VI. Colorimetric micro-deter-mination of antimony in organic compounds,

See also Jureček, M., 855.

855.

Jenkins, E. N., and Sneddon, G. W. Monitoring of effluent for alpha-emitters. III. Radium, 3542.

Jenner, H. See Blomgren, E., 3585. Jennings, P. P., and Osborn, E. M. Quantitative determination of traces of carbon dioxide in water, 2005.

Jensen, J. B. Anomalous infra-red spectra of solids in the potassium bromide disc technique, 3572. Jensen, K. B. Chemical and biological assay of Digitalis purpurea, 682.

Jensen, K. K. See Sawyer, D. T., 3227.
Jeppson, L. R. See Gunther, F. A., 2028, 4351.
Jerkovits, J. Volumetric determination of fatty alcohol in fatty alcohol sulphates by the ptoluidine method, 3413.

Jervis, R. E. See Mackintosh, W. D., 4050.

Jervis, R. E. See Mackintosh, W. D., 4000. Jessar, R. See Shapiro, B., 635. Jessop, G. See Cambridge Instrument Co., Ltd., 332. Jett, L. M. See Robertson, G. I., 2224. Jeuken, M. E. J. See Alkemade, C. T. J., 2538. Ježková, D. See Ryba, O., 782. Jindra, A., and Balák, F. Ion exchangers in pharmaceutical analysis. X. Behaviour of barbiturates. ates, 1677.

and **Šipal**, Z. I gentisic acid, 2378. Photometric determination of

See also Böswart, J., 1667.

Jindra, J. Quantitative spectral determination of small amounts of boron in steel, 4122.

Jirgl, V. See Michalec, C., 668.

Jirka, M. Polarographic determination of gentisic acid in pharmaceutical preparations, 2379.

Jirkovský, R. Radio-isotopes in analytical chemistry, 3984.

Johannesson, J. K. Determination of monobromo-amine and monochloroamine in water, 2806.

Johannsen, W. See Wehber, P., 1852.

Johne, K., Kleiss, I., and Reuter, A. Determination of 3:4-benzopyrene in exhaust gases of diesel engines, 2706.

Johnson, A. See Sekelj, P., 614.

Johnson, A. H., and Timnick, A. Performance of a wide-range high-frequency titration apparatus,

Johnson, C. A. See Garratt, D. C., 2754. Johnson C. E. See Frankel, D. M., 3069.

Johnson, C. M., Huston, R. P., and Ozanne, P. G. Measurement of microgram amounts of chlorine in plant materials, 3928.

Johnson, E. E. Air-density corrections for reduction of weighings to vacuum, 3240.

Johnson, H. W., jun. See Bann, J. M., 4349. Johnson, J. B. See Critchfield, F. E., 131, 4186. Johnson, P. D. Improved concave grating mounting. 2447

Johnston, M. R. See Gehrke, C. W., 1016. Johnston, R. S., Osgood, E. D., and Miller, R. R.

Analysis of mixed oxides of calcium, 2904

Johnston, R. W. B. See Martin, J. M., jun., 3419. Johnston, W. D. See Charles, R. G., 145. Johnstone, R. A. W. See Carruthers, W., 4201.

Jolchine, Y. See Philippe, J., 3123.

Jolly, S. C. See Shukla, J. P., 3894.

Jones, A. H. Spectrophotometric determination of

boron in high-temperature alloys by quinalizarin method, 52.

Jones, D. D., Katyama, H., and Tyler, V. E., jun. Quantitative estimation of ergotamine ergotoxine by paper chromatography, 223.

Estimation of vanadium in plant Jones, G. B. materials, 2019.

Jones, J. T. See Challis, H. J. G., 1804.

Jones, L. C. See Burnham, H. D., 2059.

Jones, L. R., and Riddick, J. A. Colorimetric determination of propane-1:2-diol and related compounds, 124.

Jones, R. H. See Gaensler, E. A., 616.

Jones, R. N. Intensities of the infra-red absorption bands of n-paraffin hydrocarbons, 3773. red spectra of n-paraffin hydrocarbons, 4166.

Jones, S. A. See Hensel, R. P., 2707. Jones, W. F. See Bark, L. S., 3604.

Jonge, A. P. de, and Verhage, A. Acid anilides. V. Qualitative separation of fatty acid anilides by paper chromatography, 576; VI. Quantitative paper-chromatographic analysis of fatty acid anilides, 576.

See also Ven, B. van der, 769. Jongh, G. Colorimetric determination of α-amylase [in flour, malt and enzyme preparations], 2778.

Jono, W., Watanabe, Teizo, Miyaji, K., and Konishi, H. Determination of free sulphur in acetone extracts of rubber, 1939.

Watanabe, Teizo, Rokushima, T., and Maruo, H. Analysis of elementary sulphur in acetone solu-

tion, 814. Jordan, W. K. See Kleyn, D. H., 3519.

Jordanow, B. See Sagortschew, B., 4014.

Jergensen, K. H., and Dam, H. Ultra-micro determination of total cholesterol in bile, based on the Tschugaeff colour reaction, 1957.

Jergensen, N. V. Fat rancidity. Scandinavian symposium on fat rancidity. Elsinore, 1957.] Stability tests in lard, 3527.

Joshi, M. K. Thiocyanate - cerimetric determination of cobalt and nickel, 530. Electrometric end-points in the oxidation of thiocyanate by permanganate. Determination of cerium, 1473. Determination of thiocyanate by potassium bromate, 1476. Volumetric iodate determination of thiocyanate, 2159. Determination of cerium^{IV} by iodate and bromate, 3287.

— See also Sant, B. R., 2612.

Jouan, P. See Cormier, M., 1978.

Joux, J. L. Paper partition chromatography of antiseptics derived from benzoic acid which may be added to food products, 1373.

Jovanović, M. S., and Janković, S. D. Separation of bismuth from other metals by the electrolysis of sulphate solutions. 111, 2177.

- and Vuković, R. J. Electrogravimetric determinations with Winkler electrodes, 2455.

Jud, L. See Rosenthal, H. L., 3473. Judel, G. K. See Scharrer, K., 1435. Juhász, B., Szegedi, B., and Gertner, M. Determination of nitrogen-containing substances in silage. Ammonia nitrogen, water-soluble nitrogen and total nitrogen, 3552.

Juhász, E. Amperometric titrations with alternating current, 1750.

Juliard, A. L. Automatic titration of micro amounts of chloride by convection amperometry, 1848.

Jullien, J. See Mousseron, M., 3789.

Jung, J. See Scharrer, K., 1596.

Jung, Z. Reactions with xanthhydrol. I. metric determination of reserpine, 19 1964; II. Photometric determination of vohimbine, 1964.

Junghähnel, G. Spectrophotometric measuring arrangement, 3211.

Junie, V. See Popper, E., 2548.

Junkes, J. Seminar of the Centro Ricerche Spectrochimiche of the Associazione Italiana di Metallurgia.] Principles, methods and apparatus of emission spectrographic analysis, 15.
- and Salpeter, E. W. [Seminar of the Centro

Ricerche Spectrochimiche of the Associazione Italiana di Metallurgia.] Photographic photometry, 15.

Jurcik, F., and Sebela, F. Determination of alkali metals in milk by flame photometry, 2784.

Jurecek, M., and Jenik, J. Mineralisation of organic compounds with magnesium. V. Colorimetric micro-determination of phosphorus in organic compounds, 855.

See also Večeřa, M., 3398.

Jury, R. V. Spectrographic analysis of high-purity lithium compounds, 1781

Juza, R., Puff, H., and Witt, H. Direct determination of the oxide content of salt-like nitrides and carbides, 3305.

abakow, B. See Ross, G., 3448. abara, J. J. Quantitative micro-method for the isolation and liquid scintillation assay of radioactive free and ester cholesterol, 669. Kácl, K. Chromatographic method for the deter-

mination of barbiturates, 2725.

Kaczmarek, F. Colorimetric determination of sparteine in broom [Sarothamnus scoparius (L.) Wimm] with Reinecke's salt, 3112.

Kadanka, Z. See Moravek, V., 3099. Kadanov, R. Z., and Zemyankovich, M. M. Electrometric determination of silver, 4006.

Kadlec, J., and Boch, J. Determination of silicon and aluminium in ferrosilicon containing 75 to 90 per cent. of silicon, 4034.

Kadomtzeff, I. Measurement of the concentration of radio-elements in a localised zone of an extended medium, 2069.

Kadota, S. See Takayama, Y., 3060. Kadyrov, Ya. K. See Gengrinovich, A. N., 1560. Kafka, M. S., and Bondy, P. K. Total neutral 17-ketosteroids. Clinical method for measurement,

Kagan, F. E. Quantitative determination of iodine and iodides with hydrochloric acid solution of iodine trichloride, 1208.

Kageyama, K. See Oi, N., 3133.

Kägi, J., Burger, M., and Giger, K. Modified fluorescence method of Weil-Malherbe and Bone for the determination of adrenaline and noradrenaline in human plasma, 3442.

Kahn, B., Smith, D. K., and Straub, C. P. Determination of low concentrations of radioactive caesium in water, 717.

Kahn, M. See Lawson, L., 1470.
Kainz, G. Modern methods of gas analysis, 3596.
Huber, H., and Kasler, F. Micro-determination of primary amino groups with nitrosyl bromide,

Kaiser, E. See Benger, H., 2768.

Kakáč, B., and Vejdělek, Z. J. Determination of Ethiacin (2-hydroxyethyl nicotinate), 243. See also Körbl, J., 2081, and Smid, M., 255.

Kakemi, K., Uno, T., and Sezaki, H. Determination of pyrazinamide. II. Determination of pyrazinamide in urine and blood, 1945.

Kakihana, H. See Kato, K., 1163. Kakita, Y. See Gotô, H., 2157, 2592, 2643, 3344. Kaláb, V., and Pinkava, J. Apparatus for the delivery of measured amounts of gases, 3560.

Kalabalina, K. M. See Delimarskii, Yu. K., 4003. Kalant, H. Micro-dialysis procedure for extraction and isolation of corticosteroids from peripheral blood plasma [determination of corticosteroids], 3483. Fluorimetric measurement of adrenocortical steroids in concentrated acid solution, 3484. Kaleis, O. Yu. Complexometric control of the

quality of distilled water, 1447.

 Kalina-Zhikhareva, V. I. See Gurevich, A. B., 4066.
 Kalinchenko, L. P., Strakhov, N. P., and Kalinichenko, I. I. Colour reaction for the detection and determination of beryllium with Chrome blue K, 3274.

Kalinichenko, I. I. See Kalinchenko, L. P., 3274. Kalinowski, K. Coulometric determination of procaine by means of electrolytically generated

bromine, 691.

Bersztel, J., Fecko, J., and Zwierzchowski, Z. Micro and macro quantitative determination of methylthiouracil by coulometry and by bromination, 2384.

Kaliteevskii, N. I. See Zaidel', A. N., 448, 1504. Kallmann, S., Liu, R., and Oberthin, H. Polarographic determination of small amounts of tin, 2034

Kalousek, M., Schütz, A., and Lesse, P. Investiga-tions on monomolecular layers. VI. Micro-Investigapipette for the accurate measurement of small quantities of solutions of materials in volatile solvents, 2435.

Kalutskaya, N. P. See Mandryka, N. V., 3049. Kalvoda, R. Micro-analysis by oscillographic polarography, 3235.

Kalyankar, G. D., and Snell, E. E. Differentiation of α-amino acids and amines by non-enzymatic transamination on paper chromatograms, 2738.

Kamada, H., and Sato, Ken. Photometric determination of nitrogen in steel with pyridine pyrazolone reagent, 525.

Serizawa, S., and Tawarada, T. Examination of ferrocyanide titration of zinc in ores, 2909.

Toda, S., and Nishiya, T. Micro-determination of carbon in non-metallic compounds in iron and steel, 523.

Kamath, R. V., Gopal, K., and Rao, S. B. Estimation of piperazine in pharmaceutical preparations.

Kambara, T. Separation of fission products by a distillation method. II. Isolation of carrierfree ruthenium by ceric sulphate oxidation, 533; III. Separation of carrier-free ruthenium with ammonium persulphate as oxidising agent, 3757.

Kamel, B. S. See Flaschenträger, B., 944. Kamemoto, Y. Photo-electric colorimetry.

Colour reaction of thallium III with amidopyrine and its application to photo-electric colorimetry, 414.

Kamen, K. Titrimetric determination of warfarin in commercial preparations, 1008.

Kameo, Y. See Shinagawa, M., 1095.

Kamiya, S. See Itai, T., 3132.

Kamphenkel, L., and Hintzenstern, G. von. Analysis of polymethylols. Quantitative determination of 2:2:6:6-tetra(hydroxymethyl) cyclohexanone

and -cyclohexanol, 4170.

Kanabrocki, E. L., Greco, J., Wilkoff, L., and Veach, R. Comparison of plasma uric acid levels obtained with five different methods, 634.

Kanazawa, J., Koyama, K., Aya, M., and Sato, R. Paper chromatography of organomercury compounds, 3036.

Kane, L. J., Gentile, J. J., Trostle, K. E., Katell, S., and Shale, C. C. Turbidimetric determination of naphthalene in gas, 2288.

Kanie, T. Determination of magnesium in aluminium alloys by photometric titration, 2903.

annuna. M. M. Tritium bremsstrahlung as a

Kannuna, M. M. means of determining sulphur and tetraethyl-lead in hydrocarbons, 1285.

and Cameron, J. F. Tritium bremsstrahlung for the determination of sulphur in hydrocarbons, 4160

Kao, S .- S., and Chuang, W .- T. Simultaneous titrations of zinc and cadmium with the "deadstop end-point," 4016.

and Hsu, K.-H. Electrometric titrations using

two indicator electrodes. I. Interpretation of the "dead-stop end-point" method, 4400.

- Hsu, K.-H., and Tien, T.-C. Electrometric titrations using two indicator electrodes. II. Experimental verification of the "dead-stop"

titration curves, 4400.

Tai, S.-K., and Cheng, S.-H. Determination of (a) tungsten in wolframite and scheelite and of (b) molybdenum in molybdenite, 487.

Kapišinská, V. See Šingliar, M., 2300. Kaplan, B. Ya. Polarographic analysis with alternating current, 1439.

Kaplan, C. M., Weisberg, H. F., and Dow, L. Study of paper electrophoresis: comparison with salt precipitation of serum-protein fractions, 2346.

Kaplan, E. See Kinnory, D. S., 3079. Kapoor, S. N. See Mathur, G. M., 2710. Kaporskii, L. N. See Shvarts, D. M., 2544. Kappelmeier, C. P. A., and Mostert, J. Determination of polyhydric alcohols in paint media, 921.

Kapur, N. S., Narayanan, K. M., Bains, G. S., and Bhatia, D. S. Colorimetric determination of vanillin, 1907.

Kar, B. C., Gupta, M. K., and Muthukrishnan, V. Improved method for the simultaneous determination of aluminium, copper and magnesium

in zinc alloys by spectrographic method, 47.
Kar, K. R., and Nath, N. Precipitation of sulphur as barium sulphate in the presence of orthophos-

phate ions, 2965

Kára, J. See Mikeš, O., 1748. Karatsune, M. See Cahnmann, H. J., 1004.

Karchmer, J. H. Determining sulphur compounds in petroleum naphtha. The Humble scheme, 1919.

and Walker, M. T. Determining disulphides in petroleum naphtha. Acetic acid - zinc reflux method, 1920.

Kardos, E. See Szekeres, L., 4111.

Kärkkäinen, V. J., and Härtel, G. Starch-impregnated filter-paper as a supporting medium for the electrophoretic separation of serum lipoproteins, 648.

Karlog. O. Determinations of parathion, para-oxon diethyl p-nitrophenyl phosphate and p-nitrophenol in organic tissue material, 2427

Karpov, A. V. See Skopintsev, B. A., 3918. Karr, C., jun. See Chang, T.-C. L., 1275, 3410. Karrman, K. J. See Bladh, E., 3366.

Karsay, A. See Erdey, L., 1128, 1519. Kartseva, V. D. See Bruns, B. P., 684. Kasaoka, S. See Murata, Y., 3743. Kashlinskaya, S. É. See Livshits, D. M., 2898. Kaske, E. T. See Beck, S. D., 3189. Kaster, F. See Kainz, G., 1540.

Kastell, A. Quantitative determination of amino acids in foodstuffs. Potato albumin, 1690.

Katell, S. See Kane, L. J., 2288. Kateman, G. See Smit, W. M., 750. Kato, D. See Stewart, D. C., 2146. Kato, K., Murase, T., and Kakihana, H. Detection

of a micro amount of zirconium with an ion exchanger, 1163.

Kato, T., Takei, S., and Okagami, A. Determination of substances in minute quantity. XIII. Quantitative determination of a small amount of mercury in the presence of a large amount of chloride ion and an equilibrium of "enolised" dithizone mercury^{II} compound, 795.

See also Takei, S., 767.

Katsura, T. See Iwasaki, I., 519. Katyama, H. See Jones, D. D., 223. Katz, J., Sellers, A. L., and Marmorston, J. Preparation of plasma proteins for radio-assay, 2344.

Katz, J. J. See Sheft, I., 852. Katz, M., Sanderson, H. P., and Ferguson, M. B. Evaluation of air-borne particulates in atmospheric pollution studies, 4324.

Kaufman, J. J., Todd, J. E., and Koski, W. S. Application of gas-phase chromatography to boron hydrides, 50.

— See also Sass, S., 3026. Kaufmann, H. P., Thieme, J. G., and Volbert, F. Determination of the quality of lard on the basis of spectroscopy, 3153.

Kauko, Y., and Döger, S. Determination of small quantities of ammonia in gas mixtures, 1489. Kavan, I., and Baše, J. Determination of oxygen

in gases, 2963.

Kawabata, H., Tomioka, S., and Umeno, K. Colorimetric determination of glucuronic acid, 3090.

Kawagaki, K. Determination of metal ions by means of their oxalates. IX. Determination of cadmium, 2911; X. Determination of magnesium, 2911.

Kawaguchi, H. See Hirano, S., 3681. Kawane, M. See Takahashi, M., 1483.

Kawanishi, H. See Kimura, K., 3704. Kawashiro, I., and Takeuchi, Hidenaga. Detection and determination of non-ionic surface-active agents in orange juice, 2394.

Kawata, K., and Hosogai, Y. Detection of food adjuncts. I. Qualitative analysis of antioxi-

dants by paper chromatography, 1995.

Kawatani, T., Ohno, T., and Ito, M. Determination of khellin in the fruits of Ammi visnaga by paper chromatography, 1673.

Kay, R. H., and Coxon, R. V. Optical and instrumental limitations to the accuracy of "oximetry,

Kazanskii, B. A., Sterligov, O. D., Belen'kaya, A. P., Kondrat'eva, G. Ya., and Pavlova, P. S. Determination of unsaturation in isopentane methylbutanel, isoprene and isoamylene methyl-2-butene] mixtures by bromimetric methods. 3048.

Kazarnovskaya, L. I., Dÿkhno, N. M., and Narinskii, G. B. Apparatus for analysis of mixtures of

oxygen, nitrogen and argon, 2602.

Kazitsyna, L. A. See Nazarov, I. N., 128.

Kebarle, P. See Ryce, S. A., 1045. Keeney, M. Regeneration of carbonyls from 2:4dinitrophenylhydrazones with laevulic acid, 872. Keeney, P. G. Paper-chromatographic separation

of aliphatic lactones, 2241.

Keil, B. Proteins. XLIII. Isolation of dinitrophenyl derivatives of amino acids and peptides by ion exchange, 2736.

— See also Kočent, A., 2040, and Mikeš, O., 1748. Keilin, D., and Hartree, E. F. Spectrophotometric study of suspensions of pigmented particles,

3429.
Keirstead, K. F. See Gagnon, P. E., 167, 3810.
Keler, M. See Pućar, Z., 3469.
Kelley, M. T., and Fisher, D. J. Instrumenthods of derivative polarography, 3577.

Fisher, D. J., Stelzner, R. W., Burros, C. L., Wagner, E. B., and Hemphill, H. L. [National Conference on Instrumental Methods of Analysis. Chicago, 1957. Servo systems and the remotely operated chemical analysis of extremely radioactive solutions, 1725.

Kellie, A. E. Determination and 17-oxogenic steroids, 1958 Determination of 17-oxosteroids

Kellner, A., Szabó, C., and Szekeres, L. Arsenometric determination of nitrite and ammonium ions, 70.

Kellner, H. See Schönenberger, M., 1640. Kelly, V. C. See Ely, R. S., 3481.

Kelsey, H. S. See Feldman, D. H., 1339.

Keltakallio, A. See Harva, O., 3264.

Kemeleva, N. G. See Songina, O. A., 1851.

Kemka, R. Organic phosphorus-containing secticides. III. Enzymic estimation of E605 (parathion), Potasan [OO-diethyl O-4-methylcoumarin-7-yl phosphorothicate] and systox in the air, 732.

— See also Janok, J., 732.

Kemp, W. P., and Ponting, K. W. Laboratory solvent-extraction apparatus, 2834.

Kempe, G. See Lehmann, H. A., 4077. Kempf, W. See Eberius, E., 1360.

Kemula, W., and Kublik, Z. Application of the hanging mercury drop to the determination of small quantities of various ions, 3231.

Kendall, C. E., and Smethem, P. S. Photomultiplier conversion of the Unicam SP.500, 2446.

Kennedy, J. H., and Lingane, J. J. Coulometric titration of uranium and uranium - vanadium mixtures with titaniumIII, 4096.

Kenny, G. S. See Evans, E. D., 1570, and Mein-schein, W. G., 288.

Kenten, R. H. Partial purification and properties of a thiaminase from bracken [Pteridium aquil-Determination of heteroinum (L.) Kuhn). pyrithiamine and of thiaminase], 723.

Kenzie, W. R. See Deutsch, P. A., 1303. Kepner, R. E., Webb, A. D., King, R. L., and Bond, A. D. p-Phenylazophenacyl esters. Rates of movement relative to p-phenylazophenacyl bromide on silicic acid and identification by paper partition chromatography, 146.

Keppie, A. T. See Mapstone, G. E., 912. Kercher, M. L. See Free, A. H., 623. Kerr, L. M. H. Determination of non-haem iron in

bone marrow, 1594.

Kert, N. F. See Crable, G. F., 812.

Kertes, A. S. Paper chromatography of metal complexes. II. Replacement ability of the ligands, 2507.

Kesser, G. See Larsen, R. P., 3003. Kessler, F. M., and Dočkalová, L. Determination of titanium in coal ash, 4044.

Kessler, M. F., and Valeška, F. Spectrographic determination of silica, iron and aluminium in black coal, 1573.

Keston, A. S. See Lilly, Eli, and Co., 937. Kéthelyi, J. See Schulek, E., 1444.

Keulemans, A. I. M. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Gas chromatography in the petroleum industry, 2478.
- See also N. V. de Bataafsche Petroleum Maat-

schappij, 1021.

Keuning, K. J., Dijk, G. J. van, and Wiggers de Vries, M. J. Analysis of fat-soluble vitamins. Determination and adjustment of the activity of adsorbents for chromatography and of the eluting power of solvents by the "shake test," 997.

See also Mulder, F. J., 998.

Kevei, E. See Spanyár, P., 261, 1337.

Keyte, H. J. See Gardiner, S. D., 2774.

Khadeev, V. A., and Zhdanov, A. K. Determination of copper and zinc in alloys [brass and bronze] by amperometric titration with a rotating platinum micro-electrode, 2527.

— See also Zhdanov, A. K., 2956, 3752. Khalafalla, S. See Flaschka, H., 344, 445.

Khalafalla, S. E., and Farah, M. Y. Polarographic analysis of complex calamines. Determinations of iron, lead, zinc, manganese, arsenic and anti-

mony, 48.

Khalifa, H. Fast grey [4-(2-hydroxy-3-nitro-5sulphophenylazo)-2-naphthol] as an indicator in titrations with EDTA, 1757. Fast grey RA as a colorimetric reagent. II. Spectrophotometric micro-determination of copper, 2118. Fast grey RA as a colorimetric reagent for the microdetermination of bismuth, 2175. Back-titration with mercuric nitrate in alkaline medium: analysis of binary mixtures of barium, strontium or magnesium together with lead, cobalt, nickel or copper, 3257.

and Daess, A. M. Electrometric titrations with the gold electrode, 3579.

- and Farag, A. Fast grey RA as a colorimetric reagent. III. Micro-determination of vanadium, 2178. Fast grey RA as a colorimetric reagent. Micro-determination of molybdenum, 2190.

- and Zaki, M. R. Fast grey RA, a colorimetric reagent. I. Spectrophotometric micro-determination of zirconium, 1809.

— See also Tomic, E., 1487.

Khalilova, V. Kh. See Zhdanov, A. K., 2956.

Khalitov, R. Sh. See Mikhailova, G. V., 484, and Turovtseva, Z. M., 1068, 2946.

Khanaev, E. I. See Gurvich, I. G., 2519.

Khanna, K. L., Bhattacharya, P. B., and Prasad, K. Colorimetric determinations. III. Comparison of colorimetric and electrometric methods for the determination of soil reactions, 285.

Khatun, S., and Khundkar, M. H. Potentiometric determination of tripositive antimony

alkaline hypochlorite, 459.

Kheraskova, E. P., Okhapkina, N. A., and Provorov, V. N. Determination of free sulphur in rubber containing sulphur-containing accelerators, 1584.

Khimushin, F. F. See Blok, N. I., 1861. Khitrov, V. G. See Rusanov, A. K., 3760.

Khlopin, N. Ya., and Gein, L. G. Permanganate bromide system in derivative polarography,

Khodak, A. S. Quantitative determination of small concentrations of ethanol in biological materials and pharmaceutical preparations, 1355.

Khodak, P. A. See Rapoport, F. M., 1879.

Khodzhaev, G. Kh. See Abidova, Z. Kh., 4202.

Khokhlova, A. V. See Kindyakov, P. S., 2518, and Baikina, V. M., 572.

Khomenko, N. E. See Gurevich, V. G., 1661.

Khomyakova, E. A. See Gertseva, N. S., 2576.

Khristianov, V. K., and Panov, G. I. Determination of the boron content of minerals by neutron analysis, 403.

Panov, G. I., and Chernova, A. A. Determination of boron by the neutron method under field conditions, 3644.

Khundkar, M. H. See Khatun, S., 459.

Khusainova, Sh. G. See Gracheva, E. G., 1778.

Kiba, T., Akaza, I., and Sugishita, N. Determination of inorganic sulphur in various forms, particularly in suiphide ores, by the tin II - strong phosphoric acid reduction method, 2964.

Akaza, I., and Taki, S. Micro-colorimetric determination of organic sulphur by the tin11 strong phosphoric acid reduction method, 1874.

Kiboku, M. Oxidimetric determination of sulphides by standard potassium ferricyanide solution, 1826. Oxidimetric titration with standard potassium ferricyanide solution. Determination of chromium, molybdenum and tungsten, 1835. Kido, Y. See Okuma, S., 1553.

Kielczewski, W. Determination of microgram quantities of tetrasodium pyrophosphate by the paper-impregnation method, 1169.

Kielhöfer, E., and Aumann, H. Determination of total and free sulphurous acid in wine, in the presence of ascorbic acid, 2398.

Kienberger, C. A. Automatic solvent-extraction apparatus and method for uranium, 1399.

Kies, H. L. Amperometry with two indicator electrodes, 2858.

Kiigemagi, U. See Brokke, M. E., 3554.

Kijima, R., and Ueno, H. Determination of chlorine and fluorine in fluorocarbon plastics by fusion with potassium carbonate, 4224.

Kikindai-Cassel, M. Separation of halogenates by ion exchangers, 3728.

Kikuchi, T., Yamada, A., and Nakano, K. Highfrequency titration [of metals] with sodium hydrogen sulphide, 2512.

Kiley, L. R. [Infra-red quantitative analysis data.] Determination of benzene and chlorobenzenes in chlorinated benzene, 1587; Determination of 1-butene, cis-2-butene, trans-2butene, isobutylene and 1:3-butadiene in C4 hydrocarbons, 1587; Determination of 2-, 3and 4-ethyltoluene in ethyltoluene mixtures, 3817; Analysis of diphenylamine, diphenyl ether and azobenzene mixtures, 4227; Analysis of 4-bromodiphenyl and 4:4'-dibromodiphenyl mixtures, 4227; Analysis of 4-phenylphenol and

4:4'-biphenol mixtures, 4227.

and Scheddel, R. T. [Infra-red quantitative analysis data.] Determination of water in phenylhydrazine, 4227.

See also Duvall, R. B., 3069, and Scheddel, R. T., 1587

Kimball, R. B. See Booman, G. L., 2094.

Kimura, H. See Fukuyama, T., 2412.

Kimura, Kenjiro, Ikeda, N., Inarida, M., and Kawanishi, H. Separation of sulphate and tellurate ions by ion exchange, 3704.

- Natsume, H., and Suzuki, Yasuo. Quantitative separation of cerium with potassium iodate. Precipitation from a homogeneous solution,

Yokoyama, Y., Sano, H., and Mabuchi, H. Separation of protactinium from thorium with a cation-exchange resin, 2601.

Kimura, Koji. Photolytic micro-determination of vitamin A in blood serum, 3837.

Kimura, S. Sampling method for the gas analysis of iron and steel, 522.

Kimura, T., and Goto, N. Separative determination of pyrazinoic acid in a mixture with pyrazinamide, 4297.

- and Sasaki, N. Determination of p-nitrophen-acylamine hydrochloride, 4204. Determination of quinoxaline and pyrazine-2:3-dicarboxylic acid, 4298.

See also Sakurai, H., 1975.

Kincannon, C. B., and Baker, M. O. Analytical distillation laboratory design for efficiency and versatility, 302.

Kindyakov, P. S., and Khokhlova, A. V. Quantitative determination of lithium in the presence of sodium and potassium by the phosphate method, 2518.

King, E. See Drew, R. G., 274.

King, E. R. See Spencer, R. P., 2310. King, R. L. See Kepner, R. E., 146. King, R. W. See Kurtz, S. S., jun., 4214.

King, W. H., Frampton, V. L., and Altschul, A. M. Note on acetone-soluble material in cotton-seed meals, 2425.

Kingsley, G. R., and Getchell, G. Test-tube extrac-tion method for the micro-determination of urinary 17-ketosteroids, 2352.

- and Robnett, O. Dye method for direct photometric determination of calcium [in serum],

See also Umbreit, W. W., 678.

Kinney, C. R., and Love, D. L. Quinone character of oxidation products of a bituminous coal, 1291.

Kinnory, D. S., and Greco, J. Contact printing frame for ultra-violet light absorbing compounds separated on paper by chromatography or electrophoresis, 1040.

Kaplan, E., Oester, Y. T., and Imperato, A. A. Determination of urinary excretion of radiocobalt-labelled vitamin B12 by cobalt sulphide precipitation, 3079.

Kinnunen, J., and Merikanto, B. Quality control of copper cathodes by an acidimetric nitrilotriacetate titration, 2528. EDTA titration of palladium, 4146.

and Wennerstrand, B. Xylenol orange as an indicator in the EDTA titration, 2496.

Kinoshita, M. Relation between Saybolt Universal viscosities and kinematic viscosities, 739. Relation between Redwood No. 1 seconds and kine-

matic viscosities, 740. Kinoshita, Y., Moriyama, S., and Shimizu, T. Analysis of drugs and chemicals by paper electrophoresis. IV. Separation and identification of sulphonamides and anilides, 692.

Kinser, C. A. See Powell, R. A., 4040. Kiprach, L. I. See Pyatnitskii, M. P., 558, 4181.

Kirby, H. W. Preparation of radiochemically pure cerium by solvent extraction, 1151.

Kirichinskii, B. R., and Roitrub, B. A. Densito-meter for the measurement of electrophoresis spots, 4383.

Kirk, P. L., and Brown, C. L. Improved technique for toxicological extractions, 1687. See also Brown, C. L., 1663.

 Kirkham, W. R. See Toren, P. E., 2809.
 Kirkland, J. J. Infra-red spectrophotometric analysis of fractional milligram quantities of solids, 323.

Kirshbaum, A. See Arret, B., 2373, and Wilner, J., 2371.

Kirshner, N., and Goodall, M. Separation of adrenaline, noradrenaline and hydroxytyramine by ion-exchange chromatography, 188.

Kirsten, W. J. Micro-determination of halogens. Zinc absorption method, 547.

Berggren, A., and Nilsson, K. Potentiometric titration of some organic and inorganic bases with sodium tetraphenylboron, 2251.

Kishko, S. M., and Shevera, V. S. Spectrographic determination of iodine in solutions, 3732.

Kisliuk, R. L. Mechanism of formaldehyde in-corporation into serine. Determination of Determination of serine, 1634.

Kissa, E. Micro-determination of carbon and hydrogen in compounds containing alkali and alkaline-earth metals, 1536.

Kissinger, H. E. Variation of peak temperature with heating rate in differential thermal analysis,

Kiszel, M. See Spanyár, P., 261, 1337.

Kita, H. See Funasaka, W., 3781.

Kitajima, M. See Takeshita, T., 3037.

Kitayama, M. See Ishibashi, Masayoshi, 1213.

Kitson, J. A. See Strachan, C. C., 1688.

Klauck, A. See Eisenbrand, J., 706.

Klebanova, F. M. See Ten'kovtsev, V. V., 2939.

Kleber, W. See Paukner, E., 1370.

Klein, S. Determination of nitrates in the milling industry, 3893.

Kleiner, K. E. Determination of oxygen in metals and oxides with sulphur chloride. I. Determination of oxygen in the oxides of aluminium, magnesium, copper and iron and in barium sulphate, 471.

Kleinert, T. N. Wet combustion of organic substances with iodic acid. II. Oxygen consumed and carbonic acid formed in total combustion. Measure of the non-volatile organic substances of waters, 2417.

and Wincor, W. Estimation of the total chemical oxygen consumption of water, 278. Kleinschmidt, R. S. See Levine, H. S., 1709.

Kleinschmidt, W. J., and Manthey, J. A. Quantitative determination of nucleic acids in whole

tissue by paper chromatography, 3452.

Kleinstein, A. See Papafil, E., 4001.

Kleiss, I. See Johne, K., 2706.

Klett, R. A. See Eby, H. M., 2062.

Kleyn, D. H., Warner, R. G., Shipe, W. F., Jordan, W. K., Dahlberg, A. C., and Davis, R. F. Inthence of ration and time of feeding on the freezy fluence of ration and time of feeding on the freezing-point and composition of cow's milk, 3519.

Kliffmüller, R. Detection of thallium [in urine], 413. Klima, D. Simple arrangement for the polarographic determination of dissolved oxygen in

industrial wastes, 2016.

Klimkovich, E. A. See Usatenko, Yu. I., 479.

Klimova, V. A., and Bereznitskaya, E. G. Microelementary analysis. XIII. Simultaneous determination of carbon, hydrogen, silicon and sulphur in sulphur-containing organosilicon compounds, 546.

and Dubinina, I. F. Variant of the Dumas method of determining nitrogen, 3766.

Kline, O. L. See Bruening, C. F., 3124. Kling, R., and Lindeman, J. Determination of the total arsenic in commercial calcium arsenate by means of an ion exchanger, 1171.

Klingenberg, J. J. See Papucci, R. A., 4048. Klingmöller, V., and Maier-Sihle, L. Paperchromatographic resolution of the racemic amino

acids histidine and tryptophan, 2337.

Klir, L. See Liška, K., 781, 783, 845.

Klotz, A. P., and Duvall, M. R. Laboratory determination of pepsin in gastric juice with radioactive iodinated albumin, 2753.

Klotz, J. See Pfandl, K., 4275. Klyachko, V. A. Selective ionites and selective ionite membranes, 1093.

Klyachko, Yu. A., Kunin, L. L., and Chistyakova, E. M. Comparative evaluation of methods of determining gases in steel, 1863.

Kunin, L. L., Chistyakova, E. M., and Larichev. N. S. Determination of gases in steel by vacuum

heating, 2991.

Knebel, C. M. See Walkenstein, S. S., 934. Knight, H. S. Gas chromatography of olefins. Determination of pentenes and hexenes in gasoline, 1915.

— See also Eggertsen, F. T., 2280.

Knizhko, P. O., Zakin, A. I., and Grizo, V. A.

[Conference. "Some Questions of Pharmacy." [Conference. "Some Questions of Pharmacy." Kiev, 1956.] Microcrystalloscopic reactions for nicotinic acid, nikethamide, mepacrine and procaine, 1661; Chloropalladic acid in micro-

chemical analysis of organic substances, 1661. Knobloch, E., Hejno, K., Arnold, Z., Mňouček, K., and Bacik, Z. Polarographic and spectrographic determination of citral, pseudoionone, α -ionone, β -ionone, and the aldehyde C_{14} . (Evaluation of intermediates in the synthesis of vitamin A from citral), 2294.

Jančík, F., Janata, V., Kraus, E., Němcová, D., and Bacík, Z. Determination of phytol and phytadiene and properties of pure standards,

1010.

Knödel, W., and Weisz, H. Mathematics of colori-metric analysis with the ring oven, 776.

Knowles, G., Briggs, R., and Dyke, G. V. Wide-bore dropping mercury electrode and its application for automatic recording of dissolved oxygen, 3180. Knuteson, J. See Dunbar, R. E., 883.

Kny, L. See Richter, J., 2402. Ko, R. Spectrochemical analysis of water, 1383. Determination of zirconium in plutonium by ion exchange and spectrography, 3299.

Kobayashi, A., Nagahama, S., and Akiyoshi, S. Infra-red photometric analysis of toluic acids, benzenedicarboxylic acids and xylyl chlorides,

Kobayashi, M. Analytical studies on phosphates. IX. Amperometric titration curves of cobalt¹¹

with sodium triphosphate, 529.

Kobayashi, Y. Determination of low concentrations of ethylene by means of a detecting tube, 1878. Determination of acrylonitrile [vinyl cyanide] vapour by means of detector tubes, 1899. Determination of a small amount of arsenic by means of a detector tube, 2172. Determination of a small amount of chloride and bromide with a detector tube, 2202. Determination of sulphide sulphur in water by means of a detector tube, 4331.

Koblin, A. Field sampling and analysis of micro quantities of sesquimustard fdi-(2-chloroethylthio)ethane in presence of mustard gas, 2689.

Kočent, A., Brada, Z., and Keil, B. Balance-type fraction collector, 2040.

Koch, J., and Schiffner, G. Determination of total acids in fruit juice and wine, 1368.

Koch, O. G. Analysis of trace impurities. Analysis of impurities in purest aluminium and aluminium compounds, 3284; II. Analysis of impurities in titanium and titanium compounds, 3296; III. Trace analysis of zirconium and its compounds, 3673; IV. Trace analysis of selenium of high purity, 3706.

and Dedic, G. A. Spectrographic trace analysis of textile-fibre ash after pyrrolidine tetramethylene dithiocarbamate - dithizone extraction, 2715.

See also Meyer, S., 2591, 4129.

Koch, W., and Eckhard, S. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Introduction of a photo-electric instrument for serial micro-analysis in the investigation of

structural constituents of steel, 1435.

Malissa, H., and Ditges, D. Micro-analytical investigations in iron research. III. Handling of microgram quantities in metal investigations,

3195.

Kocheva, L. See Iordanov, N., 1480.

Kocsis, E. See Erdey, L., 54.

Koczy, F. F., Picciotto, E., Poulaert, G. and Wilgain, S. Determination of thorium isotopes in sea water,

Kodama, M. See Tanaka, N., 3232.

Koenig, N. H. See Susi, H., 2688.

Koerner, J. F., and Sinsheimer, R. L. Deoxyribo-nuclease from calf spleen. II. Mode of action. Determination of monoesterified phosphate in large polydeoxyribonucleotides], 2333.

Kofler, A., Delande, N., and Lacourt, A. Thermo micro-methods for identification of glutamic acid antipodes, 951.

Kögler, H. Thermo-chromatography in the gas phase, 1406.

Hultschig, M., Fischer, J., and Weidenbach, G. Automatic gas analysis for plant control, 738. See also Gorbach, G., 1333.

Köhler, T. See Zylka, W., 190.

Kohn, J. Cellulose acetate supporting medium for zone electrophoresis, 1747. Micro-electrophoretic method, 4380.

Kohzuma, T. See Okada, T., 541. Koiw, E. See Nowaczynski, W., 1324.

Koizumi, T. See Tanaka, N., 1134, 3232.

Kojima, M. Colorimetric determination of tin in non-ferrous metals by the use of oxidised haematoxylin. I. Tin in metallic zinc, 432; II. Tin in lead, 432. Determination of chlorine in zinc sulphate electrolyte, 506. Determination of aluminium and copper in die-cast zinc alloys by the use of anion-exchange resin, 1796.
See also **Matsuura**, N., 461, and **Yoshino**, Y., 461.

Kojima, T. See Funasaka, W., 581, 582, 3781.

Kokes, K. See Pohl, F. A., 415.

Kokhova, G. M. See Blok, N. I., 3668.

Kokorin, A. I., and Shchelkunova, M. S. Volumetric method for the determination of vanadium in triheteropoly acids, 4071.

Kolbezen, M. J. See Gunther, F. A., 4373.

Kolchina, A. G. See Aidarkin, B. S., 2534.

Kolesnikov, P. A. Quantitative determination of carbonyl compounds and secondary and tertiary alcohols in small samples of plant material, 1712. Kolling, O. W. Titrimetry in the study of inorganic

reactions in non-aqueous solvents, 20.

Kolor, M. G., and Roberts, H. R. Reagent for the detection of hydroxyproline on paper chromatograms, 652.

See also Roberts, H. R., 1625, 1626, 4255.

Kolousek, J. Paper chromatography of urinary amino acids, 1624.

Kolšek, J., Novak, N., and Perpar, M. p-Dimethylaminobenzaldehyde as a reagent for the characterisation of primary aromatic amines, 2693.

Kolthoff, I. M., and Jacobsen, E. Voltammetry and amperometric titration at the rotated platinum electrode of bi-, ter- and septa-valent manganese

in pyrophosphate medium, 841.

and Nightingale, E. R., jun. Voltammetric behaviour of the iron¹¹ - iron¹¹¹ and cerium¹¹¹ Voltammetric cerium^{IV} couples in potentiometric titrations at constant current and amperometric titrations with two indicator electrodes, 2466.

and Okinaka, Y. Factors to be considered in

quantitative polarography with the rotated dropping mercury electrode, 3233.

Kolusheva, A., and Morozova, A. Quantitative determination of camphor as its oxime, 4206. Determination of traces of iodine, Komárek, K.

Komatsu, A. See Hiraizumi, T., 914. Komatsu, S., and Hiroaki, Z. Gravimetric determination of bivalent mercury with p-ethylsulphonylbenzaldehyde thiosemicarbazone, 399. - and Kumagai, N. Indirect colorimetric deter-

mination of vanadium with phenylthiosemi-carbazide, 2959.

Kominami, T. See Nishino, Y., 1884. Kondo, A. Organic elementary analysis with a micro-bomb. I. Volumetric micro-determination of organic sulphur, 544; II. Separation and semi-micro determination of iodine in organic compounds containing other halogens, 548; III. Gravimetric micro-determination of organic selenium, 2664.

Kondo, Hiroko. See Mizukami, S., 3009. Kondo, Hiroshi. See Muraki, Ichiro, 2986, and

Suzuki, Masami, 3627.

Kondo, S. Qualitative and quantitative analysis of essential oils. I. Separation of constituents by paper chromatography, 3052.

Kondrakhina, E. G., Egorova, L. G., and Songina, O. A. Amperometric method for the analysis of chromites and chromomagnesitic refractory materials, 3709.

Kondrashina, A. I. See Solodovnik, S. M., 419. Kondrat'eva, G. Ya. See Kazanskii, B. A., 3048. Kondratova, V. P., and Petrashen', V. I. Quantitative determination of lead in enamel paints containing a lead drier, 1481.

Kondritzer, A. A. See Ellin, R. I., 3141.
Koneeny, C. See Kouřím, V., 3612.
Kong, R. W., Mecham, D. K., and Pence, J. W.
Determination of sulphydryl [thiol] groups in wheat flour, 2389.

Koniecki, W. B., and Linch, A. L. Determination of aromatic nitro compounds, 4205.

König, H. See Ebert, K. H., 4094.

Konishi, H. See Jono, W., 1939. Konkin, V. D. Photometric determination of aluminium in steel and cast iron, 4126.

Konnova, E. N. See Vinnik, M. A., 1716. Kono, K. See Takahashi, Tetsuzo, 3836.

Kono, T., Sato, Keiko, Suzuki, Mizue, and Isobe, I. Micro-determination of oxygen. VI. Results in routine work, 3011.

Kononenko, L. I. See Poluéktov, N. S., 68, 356. Konovalov, A. Experimental appraisal of microdetermination of organic iodine, 4158.

Kontorovich, L. M. Determination of small quantities of nitric oxide in gases, 1811.

Konupčík, M. See Manoušek, O., 2249.

Kooi, J. Quantitative determination of strontium-89 and strontium-90 in water, 3184.

Kopriva, B. H. See Zelenka, S., 4310.

Kopřiva, M. See Kraljić, I., 2274.

Kopteva, Z. F. Determination of calcium and magnesium in aqueous extracts of soil by titration in one solution, 725.

Körbl, J. Metallochromic indicators. III. Preparation of 3:3'-bis-NN-di(carboxymethyl)aminomethylthymolsulphonephthalein (methylthymol blue), 771

and Kakáč, B. Metallochromic indicators. V. Methylthymol blue as an acid - base indicator, 2081.

Kraus, E., and Přibli, R. and Landicators. VII. Glycinethymol blue, 2495. Metallochromic indicators.

and Pibil, R. Complexometric titrations. (Chelatometry.) XXX. Methylthymol blue, a new metallochromic indicator of the complexone Metallochromic indicators. type, 10. Analogues of "o-cresolphthalein complexone," 2495

Svoboda, V., Terzijská, D., and Přibil, R. New group of metallochromic indicators, 2498.

and Vydra, F. Metallochromic indicators. IV. Preparation and properties of calcein, 771.

 See also Buben, F., 793, 3892. Haráček, J., 2661, 3358, Houda, M., 2914, and Přibil, R., 3632.
 Korenman, I. M. [Reviews of Russian analytical chemistry.] Inorganic microchemical analysis,

1082 and Baryshnikova, M. N. Co-precipitation of

zinc, cadmium and mercury with anthranilic acid. 2910.

and Sheyanova, F. R. Extraction as a method of

physico-chemical analysis, 338.

Sheyanova, F. R., Mezina, N. M., and Ostasheva,
M. I. Radiometric extraction titration, 345. Sheyanova, F. R., and Roshchina, R. V. Study

of certain azo dyes as reagents for indium, 1148. Korkisch, J., Farag, A., and Hecht, F. Enriching uranium by means of ion exchange and the determination of uranium in solid samples, 3724.

Zaky, M. R., and Hecht, F. Determination of micro amounts of uranium in minerals, 494.

Korner, A. See Debro, J. R., 3098.

Korobitskaya, A. A. See Bruns, B. P., 684.

Korobka, L. A. See Ermolaeva, E. V., 3608, 4025

Korobova, I. A., and Velichko, N. G. Determination of total phosphorus in granular zinc (arsenic-free) by visual colorimetry, 4061.

Korony, V. See Medianu, B., 4117

Körös, E., and Remport-Horvath, Z. EDTA titration of zinc in brass and bronze, and of cobalt in the presence of copper, 2546.

See also Přibil, R., 3675, and Schulek, E., 1444. Korsh, M. P. Calibration of a scale of standards for the colorimetric determination of acetylene, 2672

Korshun, M. O., Gel'man, N. É., and Glazova, K. I. Simultaneous micro-determination of fluorine, carbon and hydrogen in organic compounds, 1542. See also Gel'man, N. E., 543, 1243.

Korzun, B. P., St. André, A. F., and Ulshafer, P. R. Paper-chromatographic evaluation of Rauwolfia

species, 3496.

Kosheleva, G. N. Fluorescent acid - base indicators, 1430.

Koshkin, D. I. See Ershov, B. P., 1904.

Koshkin, N. V., and Shreiner, N. M. Determination of water in gypsum using calcium carbide and methylmagnesium iodide, 388.

Koski, W. S. See Kaufman, J. J., 50.

Kosta, L. Sodium dihydrogen hypophosphate as a reagent for the quantitative co-precipitation of thorium, 2585.

Kostarev, G. B. See Smirnov-Averin, A. P., 363. Kostka, V. See Mikeš, O., 1748.

Kostrikin, Yu. M. Use of ionites for the analysis of water and steam in the thermal power industry, 1387

Kostyra, H. See Hegemann, F., 1217, 3607.

Kostýrev, G. V. See Starik, I. E., 1501 Kostýshina, A. P. See Pilipenko, A. T., 1106, and Pyatnitskii, I. V., 33.

Kotakemori, M., and Handa, H. Polarographic determination of phenylmercury acetate and ethylmercury chloride, 4300.

See also Shirota, N., 4196. Kotelkov, N. Z., and Voshchinskaya, M. S. Determination of small concentrations of barium ions, 4013

See Vřeštál, J., 2169, 2199, 2494. Kotrlý, S.

Kottász, J. Determination of solids content of ice-cream by irradiation with infra-red light, with the use of filter-paper and aluminium foil, 4311.

Kouřím, V., Krtil, J., and Konecny, C. Reaction of hexanitrodiphenylamine (dipicrylamine) with caesium, rubidium, potassium and ammonium, 3612.

Kováč, J. Automatic titration in water determination, 2465. Polarographic evaluation of isomers and derivatives of diethyl p-nitrophenyl phos-phorothionate (parathion) after separation by paper chromatography, 2429.

Kovács, E. Hydrophobisation of chromatography paper by ethylchlorosilane, 1404.

See also Matkovics, B., 3103.

Kovalenko, P. N. Co-precipitation of nickel and zinc with aluminium hydroxide by polarographic methods, 3000.

See also Bagdasarov, K. N., 1228, and Ivanova, Z. I., 758.

Kovalev, E. E. See Andreeva, O. S., 2543. Kovalev, I. A. See Ezhik, I. I., 2838. Kowala, C. Chromatographic chamber for one-dimensional ascending and descending paper chromatography, 2042.

Kowalczyk, J. Apparatus for the continuous separation of substances by paper electrophoresis,

Kowalczyk, T. See Rafalowska, H., 1345. Kowalewski, Z. Evaluation of the active principles of foxglove leaves by colorimetric methods, 3498. Kowalska, H. See Opieńska-Blauth, J., 2336.

Kowkabany, G. N. See Hordis, C. K., 4172, and Isbell, H. S., 870.

Koyama, K. See Kanazawa, J., 3036.

Kozel', L. Z. See Alimarin, I. P., 3671.

Kozlov, A. S. [Conference on Methods of Analysis of Rare and Non-Ferrous Metals. Moscow, 1956.] Qualitative reactions for caesium (rubidium, ammonium, potassium), cadmium and copper, 1442. Detection of copper, 2114.

Kozlova, N. P. See Fikhtengol'ts, V. S., 2001.

Kozlovskii, M. T. [Reviews of Russian analytical chemistry.] Electrochemical methods of analytical chemistry, 1082.

See also Songina, O. A., 1851.

Kozyreva, M. S. See Atroshenko, M. P., 2581. Krächter, H., and Jäger, W. Quantitative deter-

mination of alloying elements in steel by analysis of the X-ray fluorescence spectrum, 2214.

Kráčmar, J., and Stejskal, Z. Gravimetric and polarographic determination of derivatives of xanthen-9-carboxylic acid (Banthine and Pro-Banthine), 1684.

— See also Blažek, J., 1976. Krajovan-Marjanović, V., and Pučar, Z. Analysis of cement, 3007.

Králik, I. See Rusznák, I., 1550. Kraljić, I. Determination of gold, 2123.

Kopřiva, M., and Pungeršek, M. Detection of nitroso compounds, 2274.

Kramarenko, V. F., and Levtova, A. P. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Quantitative determination of riboflavine, 1661.

Kramer, D. N., and Gamson, R. M. Analysis of toxic phosphorus compounds, 1569. Colorimetric determination of acetylcholinesterase activity, 2356

Kramer, H. Flame-photometric determination of calcium in phosphate, carbonate and silicate rocks, 2539. See also May, I., 1050.

Kramer, J. Turbidimetric microbiological assay for nystatin, 2372.

Krampitz, G. See Albersmeyer, W., 2690.

Kranjčević, M. Determination of phemitone [methylphenobarbitone] in the presence of phenobarbitone by precipitation with sodium cobaltinitrite, 3506.

and Broz-Kajganović, V. Quantitative determination of codeine and amidopyrine by frac-

tionation with "Kalignost," 3492

Krasil'nikova, L. N. Colorimetric determination of nickel in products from copper production, 4140. and Maksai, L. I. Colorimetric determination of aluminium oxide in slags and agglomerates from

lead and copper production, 4024. and Milaev, S. M. Determination of fluorine in

products of zinc and lead production, 4102. Krašovec, F., Vene, N., and Peterlin, A. Turbidi-

metric titration of polymer solutions, 3811. Kratochvil, V., and Langner, J. Determination of thiophosphoryl chloride in the atmosphere, 3177.

Kraus, E. See Buděšínský, B., 2679, Jančik, F., 246, Knobloch, E., 1010, and Körbl, J., 2495.

Kraus, K. A., and Garen, A. Chemistry of prot-actinium. II. Analysis of ore residues for protactinium, 3319.

and Van Winkle, Q. Chemistry of protactinium. Solvent extraction of protactinium, 3319.

Krausz, I., and Perl, I. (Mrs.). Detection and semiquantitative determination of small amounts of cobalt in the presence of nickel, 3348.

Krebs, K. G., and Matern, J. Volumetric determination of water in pharmaceutical preparations by the Karl Fischer method, 4272.

Kreimer, S. E., and Butylkin, L. P. Determination of copper by means of lead diethyldithiocarb-

amate, 3616. Kreis, K. See Fauconnet, L., 3499.

Krejcar, E. Determination of metallic nickel in the

presence of nickelous oxide, 2651.

Krejčí, V. See Čelechovský, J., 23, 238.

Krejzová, E., Simon, V., and Zýka, J. Titrations with quinol and analogous reducing agents. IV. Determination of azides by exchange precipitation reaction, 2161; V. Determination of cerium in pharmaceutical preparations, 1981. Oxidimetric determination of tartaric acid and tartrates, 3782.

Krempl, H., and Scheibe, G. Possibilities of photoelectric emission-spectrum analysis, 319. See also Feldkirschner, H., 745.

Křepinský, J. Polarographic determination of papaveraldine, 3877.

Kreshkov, A. P., and Bork, V. A. Photometric determination of phenoxy groups in organosilicon compounds, 3014.

and Sayushkina, E. N. Separation of copper and nickel by ion-exchange chromatography, 1123.

Kress, K. E. Determination of polyisobutylene in rubber products, 2307. Photometric determination of zinc oxide in rubber products. Absorptiometric and turbidimetric methods using sodium diethyldithiocarbamate, 2723.

Kretz, R. See Götte, H., 1873. Kreulen, D. J. W. See Hissink, M., 1288.

Kreuzer, F. Polarographic procedure for measuring

the blood oxygen tension in vitro, 1941. Krishen, A. Study of solvent extraction with

acetylacetone, 1105. Krishnamurti, K., and Dhareshwar, B. V. Modified

technique in chromatography, 4361. Kristalev, P. V., and Kristaleva, L. B. Colorimetric determination of nitrites with 3-methyl-1-phenylpyrazolone and its derivatives, 4059.

Kristaleva, L. B. See Kristalev, P. V., 4059. Krivis, A. F. See Elving, P. J., 824.

Krivoruchko, F. D. Photometric method of determining the vapours of certain alkyl- and aryl-chlorosilanes in air, 712.

Krochta, W. G., and Mellon, M. G. Absorptiometric determination of caesium, 364.

Krol, A. J., Eddy, L. B., Mackey, D. R., and Weber, Determination of dimethoxyborane in methyl borate solutions, 1556.

Krol, S. See Rimington, C., 1606.

Kropachev, V. A. Syringe method of determining the saturation of blood with oxygen, 931.

Krot, N. N. See Smirnov-Averin, A. P., 363.

Krotkov, G. See Runeckles, V. C., 642. Krouskop, N. C. See Mair, B. J., 2703. Krówczyński, L., and Smajkiewicz, Plate

determination of pepsin activity, 957.

Krtil, J. See Kouřím, V., 3612.

Krueger, E. O. See Washburn, W. H., 1587.

Krüger, H. M. See Schulte, K. E., 3147.

Krugers, J. Electronic switch for differential

polarography with dropping electrode, 3230.

Krull, W. See Ueberreiter, K., 1933. Krumholz, P. Spectroscopic studies on rare-earth compounds. I. Instrumentation, 3568; II. Comparative study of the absorption spectra of the neodymium ion in aqueous solution and in crystalline salts, 3288.

Krumin, E. Ya. See Mai, L. A., 3838. Krumin, P. O., and Svanks, K. Determination of carbon dioxide in solid fuels, 3411.

Kruse, H. W. See Olsen, A. L., 325. Kruse, K. M. M. Wavelength marker for spectrophotometers incorporating a strip chart recorder,

Kruzhevnikova, A. I. See Afanas'ev, B. N., 690. Krÿlov, A. Ya. See Atrashenok, L. Ya., 1502, and Starik, I. E., 2621.

Krýlov, E. I., and Chukhlantsev, V. G. Uranyl and thorium selenites, 1193.

Krylova, A. N. EDTA (disodium salt) in determinations of barium in biological material, 3077.

Kryuchkova, G. N. See Finkel'shtein, D. N., 453. Kryukov, P. A. See Beisova, M. P., 3919, and Goremykin, V. E., 2887.

Kryukova, Z. S. See Ten'kovtsev, V. V., 2939. Krzeczkowska, I. Paper chromatography for the detection of copper in solutions and in biological materials, 3614.

Kšír, O., Jankovský, J., and Folipracht, K. Determination of sulphur by ion exchange, 3700.

Kubala, J. See Gregorowicz, Z., 1230.

Kubias, J. Determination of ethanolamines in mixtures, 3029.

Kubička, R., and Kvapil, Z. Extractions with catechol and resorcinol, 2677

Kublik, Z. See Kemula, W., 3231. Kubota, M. See Sudo, T., 2588. Kuby, S. A. See Noda, L., 215. Kuchar, E. J. See Norris, M. V., 3895. Kucharský, J. Colorimetric determination of rutin,

Kuchkarev, A. B. See Usmanov, Kh. U., 4180. Kuck, J. A., and Grim, E. C. Automatic ignition of the sample vs. use of the Bunsen burner in the rapid silver absorbent method for sulphur, 545. Kudelya, E. S. Spectrographic analysis of welding

fluxes, 1533.

See also Pilipenko, A. T., 1106.

Kudo, L., and Aoki, I. Detection of alcohols by their colour reaction with vanadium oxinate, 3378.

Kuehner, E. C. See Leslie, R. T., 2867.

Kuemmel, D. F. Direct determination of saturated fatty acids in fats, oils and methyl esters, 3529. Kuhn, M. New method of analysis of copper alloys.

[1], 3268; [11], 3618. Kuhn, R., and Schretzmann, H. Micro-analysis of

silver bromide, silver iodide and lead iodide, 2894. Kühnhanss, G., Rösner, H., Hüttig, E., Wagner, M., and Tischendorf, G. Analysis of hydrocarbon mixtures. I. Partition of diesel oil fractions and ascertainment of constituents, 1283; II. Development of a rapid analysis method, 2279.

Kuik, M. See Basinski, A., 1135.

Kukin, I. Determination of acids and basic nitrogen compounds in petroleum products, 4211.

Kuksis, A. See Diaper, D. G. M., 2572. Kulak, A. I. Determination of micro amounts of impurities in antimony by the neutron activation method, 2955.

See also Zvyagintsev, O. E., 3626. Kul'berg, L. M. See Lenskaya, V. N., 43, and

Mustafin, I. S., 340. Kulčickyj, I., and Švácha, F. Anion-exchange resins in analytical chemistry. IV. Separation of iron and aluminium on the anion-exchange resin OAL, 3741.

Kulp, J. L. See Volchok, H. L., 3433.
Kumagai, N. See Komatsu, S., 2959.
Kumagami, A., Otomo, M., Yano, S., Tskeuchi, N., and Yagura, K. Quantitative determination of corticosteroids. I. Quantitative determination of conjugated corticosteroids with use of \(\beta glucuronidase, 1959.

Kumaoka, S., and Toba, Y. Butanol-extractable iodine of serum determined by dry-ashing procedure, 3078.

Kumler, W. D., and Szekely, I. J. m-Aminophenol in aminosalicylic acid by the U. S. P. method,

Kumov, V. I. See Gusev, S. I., 379, 3717.

Kum-Tatt, L., and Farmilo, C. G. Use of ammonium reineckate in the determination of opium alkaloids, 1665.

Kund, G. G. See Zaidel', A. N., 1504. Kung-soo, C. See I-djen, H., 1435. Kuniak, L', See Slávik, I., 2717.

See Klyachko, Yu. A., 1863, 2991. Kunin, R., McGarvey, F. X., and Zobian, D. [Review of industrial applications of analysis, control and instrumentation.] Ion exchange, 2867.

Kunst, E. D. See Boog, W., 1435. Kupka, J. See Bartik, M., 2164.

Kupriyanov, S. E., Dzhagatspanyan, R. V., and Potapov, V. K. Mass-spectrum analysis of a mixture of tetrachloroethane, trichloroethylene and the isomers of dichloroethylene, 4168.

Kuraš, M., and Mollin, J. Analytical reactions of amidoximes. VIII. Polarographic determination of nickel with oxamide dioxime, 3756.

Kuratomi, K., Ohno, K., and Akabori, S. Microdetermination of the total quantity of cysteine plus cystine in protein by hydrazinolysis, 2742. Kurbanov, M. Sh. Determination of potassium in

rocks, 362. Kurchatov, M. S. Determination of sulphur in various materials [coal, ores, etc.] by reduction

with zinc vapour, 2604.

Kurimura, Y. See Yoshino, Y., 2096.

Kuroda, R. See Hamaguchi, H., 2893.

Kurosa, R. See Hamaguch, H., 2893.
Kurtz, O. L. See Aoki, F., 2112.
Kurtz, O. L. See Thrasher, J. J., 1000.
Kurtz, S. S., jun, King, R. W., Stout, W. J., and
Peterkin, M. E. Carbon-type composition of
viscous fractions of petroleum. Density - refract-

ivity intercept method, 4214.

Kusama, T. See Fukuda, T., 2829.

Kushnir, Yu. M. See Zemlyanova, L. I., 1100.

Kustanovich, I. M. Spectrographic analysis with a single achieve the second seco single calibration curve by independent evaporation in an atmosphere of chlorine, 2839.

tion in an atmosphere of chlorine, 2839.
Kutschinski, A. H. See Smith, G. N., 2426.
Kutsev, V. S. See Breger, A. Kh., 3699.
Kuwai, S. See Suzuki, Yukio, 1499.
Kuykendall, J. R. See Maier, R. H., 4015.
Kuz'mina, L. P. See Sokolov, V. A., 2670.
Kuznetsov, D. I. See Peshkova, V. M., 527.
Kuznetsov, V. I. [Reviews of Russian analytical chemistry.] Organic reagents, 1082. Radio-active isotopes for new methods in analytical

active isotopes for new methods in analytical chemistry.

chemistry. Organic co-precipitants, 1768. and **Mikhailov, V. A.** Scarlet 3B—indicator for the complexometric determination of calcium, 384. and Seryakova, I. V. Extraction separation of elements by means of easily fusible organic substances, 2483.

Kuznetsova, T. P. See Sekt, K. I., 1820. Kvapil, M. Analysis of dolomites, ankerites and magnesites in the presence of larger amounts of

manganese, 4149. Kvapil, Z. See Kubička, R., 2677.

Kveder, S. Dropping-funnel for tracer work, 3558.

— See also Abaffy, F., 1966. Kwantes, A. See N.V. de Bataafsche Petroleum

Maatschappij, 1021.

Kwauk, S.-W. Beryllon II as an indicator for complexometric titration, 4011. Kysil, B. See Přibil, R., 3632.

Labkovskaya, D. B., and Reishakhrit, L. S. Polarographic determination of copper, lead and zinc in the presence of ferric iron. 1, 3622.

Lach, J. L., Bhansali, K., and Blaug, S. M. Chromatographic separation and determination of diphenylhydantoin and phenobarbitone, 3131.

Nair, D., and Blaug, S. M. Determination of chlorobutanol [chlorbutol] in pharmaceuticals by amperometric titration, 3129.

Lachin, M. See Fiorenza, A., 2840. Lacko, L., and Málek, J. Dextran. II. Determination of the mean molecular weight of partially degraded dextran by an iodimetric method, 127.

Lacoste, R. J. See Rosenthal, I., 1396.

Lacourt, A. Progress in quantitative paper chromatography, 1088.

and Heyndryckx, P. Chromatographic determination of micro amounts of metals, 780. See also Kofler, A., 951.

Lacruche, B. See Mével, N., 3611. Laflamme, A. See Nowaczynski, W., 1324.

Lai, M.-G. See Skoog, D. A., 2650.

Lais, A. See Intonti, R., 15.

Laitinen, H. A. [Review of industrial applications of analysis, control and instrumentation.] Amperometric titrations, 2867.

and Gaur, H. C. Chronopotentiometry in fused hithium chloride - potassium chloride, 2857. and Hall, L. C. Square wave titrimetry, 760.

Liu, C. H., and Ferguson, W. S. Polarography of metal ions in fused lithium chloride - potassium chloride eutectic, 4385.

Lake, R. H. See Bright, N. F. H., 1192. Lakshminarayanan, K., and Subramanian, D. Chromatographic detection and estimation of fusaric acid, 2277.

Lal, J. B. Formulae for estimation of esters and alcoholic constituents in essential oils, VIII. Simple formulae and their applications, 1926.

See also Mathur, G. M., 2710, Narain, K., 2708, and Srivastava, S. P., 2709.
 Lal, M. See Taimni, I. K., 2077.

La Lau, C. See Lau, C. la.
Lamb, B. See Luthy, N. G., 895.
Lamb, K. P. Quantitative micro-analysis of leaf
tissue for organic constituents with special reference to sampling error, 2018.

Lambert, F. L. Polarography at very negative potentials. Improvement of polarograms by use of NN-dimethylformamide and tetrabutyl-

ammonium iodide, 3578. Lambertsen, G., and Brækkan, O. R. Ultra-violet spectrum of vitamin A2, 269. Losses of vitamin A during chromatography, 3912.

Lambou, M. G. Mobilities of polyols, sugars, acids

and other compounds. Reactions on paper with the Godin reagent, 1009.

Laméris, C. L., and Templeman, D. W. Determination of lead dioxide in minium [red lead], 803.

Lamond, J. Qualitative test for nitroglycerin, 1940.

Lamprecht, W. Analysis of titanium dioxides, 1162.

Lamson, D. W. See Reilley, C. N., 3258.

Lamure, J. See Billy, M., 2951.

Landi, M. F. See Braicovich, L., 15, 1435.

Láng, B., and Tavaszy, L. Titration of amidopyrine in programs any source solvents, 2762.

in non-aqueous solvents, 2763.

— See also Bakács, E., 1815. Lang, R. E. See Ma, T. S., 1246. Lange, G. See Blasius, E., 3950.

Lange, W., and Mohrhauer, P. Determination of total sulphur in solid fuels, 3804.

Langejan, M. Absorptiometric determination of methoxyl, 857. Extinction method for the Extinction method for the determination of alkaloids containing a methylenedioxy group, 2360.

Lange von Stocmeier, H. G. See Stocmeier, H. G. L.

Langford, J. C. Determination of radio-caesium by complex cobalticyanide precipitation, 1782.

Langford, R. B., and Lawson, D. D. Characterisation of organic compounds with 2:4-dinitrobenzenesulphenyl chloride, 2229.

Langner, J. See Kratochvil, V., 3177.

Lanik, A. See Ballczo, H., 2198.

Lansford, E. M., Harding, W. M., and Shive, W. Thymidine determination by microbiological assay methods, 3462.

Lansford, L. M. See Marvin, K. T., 3194. Lantz, E. M. See Galloway, L. S., 1650. Lapière, C. See Stainier, C., 3891.

Lapin, L. N. Use of diphenylcarbazone for the photometric micro-determination of copper in blood, urine and tissue, 1943.

Zamanov, R. Kh., and Makarova, V. P. Colorimetric determination of ammonia in soil by means of the thymol - hypobromite reaction, 2812.

Lapin, N. N., and Slyusarev, A. T. Determination of m-nitrobenzoic acid in the electrolyte used for recovering tin from waste, 3044.

[Colloquium Spectroscopicum Inter-Laqua, K. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Comparison of a.c. arcs of different voltages, 1435.

Larichev, N. S. See Klyachko, Yu. A., 2991. Larsen, R. H. See Hill, W. H., 1138. Larsen, R. P., Ross, L. E., and Kesser, G. Determination of fission-product ruthenium, 3003.

Larskii. É. G. Micro-procedure for the diphenvlamine reaction with the blood of diseased persons,

Larson, B. L. See Doan, F. J., 3155.

Larson, T. E. See Mueller, H. F., 2012.

Larumbe, F. H. Absorptiometric determination of iron and tungsten without prior separation, 2213.

Lascano Ruiz, I. S., and Prat, Y. Acidity of formalised milks and the measurement of lactic acid produced at the expense of lactose, 262.

Lashko, N. F. See Blok, N. I., 1861, 3668.

Lasiewicz, K., and Zawadzka, H. Polarographic determination of lead, copper and zinc in pyrites, marcasite and spent oxides, 1160.

Lašková, V. See Jakubec, I., 216.

Laskowski, D. E., and McCrone, W. C. 2:4:7-Trinitrofluorenone as a reagent for microscopic fusion analysis of benzene and naphthalene derivatives, 3040.

Lassner, E., and Scharf, R. Masking of uraniumVI in complexometric titrations (pH 10), 2981. Separation of niobium, tantalum and titanium from ferrotantaloniobium, 3696.

- and Schlesinger, H. Indirect volumetric deter-

mination of molybdenum with EDTA, 1839.

- and Weisser, H. Separation of tital titanium. niobium and tantalum from hard metals, 1482.

Laštovková, M. See Vacek, J., 241.

Microbiological assay method for László, N. oxytetracycline and chlortetracycline, 4284.

Laszlovszky, J. Bromatometric determination of some 2-naphtholsulphonic acids (Schäffer's acid, R-acid, G-acid) [2-naphthol-6-sulphonic, 2-naphthol-3:6-disulphonic, 2-naphthol-6:8-disulphonic acids], 3793.

Lathe, G. H., and Ruthven, C. R. J. Factors affecting the rate of coupling of bilirubin and conjugated bilirubin in the Van den Bergh reaction, 3834.

Latinák, J. Chromatography of dyestuff inter-mediates. VII. Identification of the toluidines and nitrotoluenes by paper chromatography, 888.

Laturaze, J. See Osteux, R., 3023.

Lau, C. la, and Dahmen, E. A. M. F. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Infra-red study of some organic salts in solution, 1435.

Lau, S. C. See Bann, J. M., 4349.

Laubie. H. Identification and determination of a fungicide, methoxyethylmercury chloride, 694. See also Girard, R., 686.

Lauer, G. S. See Poluéktov, N. S., 2906.

Lauer, K. J. H. See Chen, S. L., 176.

Launer, H. F. See Tomimatsu, Y., 839.

Lavruchina, A. K. Radio-isotopes in quantitative analysis, 1098.

Law, W. See Crawford, T. B. B., 4241. Lawendel, J. S. Ultra-violet absorption spectra of L-ascorbic acid in aqueous solutions, 1702.

Lawler, H. M. See Read, E. B., 3262. Lawrence, H. C. See Seaman, W., 1249. Lawrie, H. Turbidimetric method of estimating

blood urea, 1604. Laws, E. Q. See Field, K., 2026. Lawson, D. D. See Langford, R. B., 2229. Lawson, L., and Kahn, M. Adsorption and solvent-extraction procedures for the separation of

carrier-free indium from cadmium, 1470. Lay. J. O. Spectrographic analysis of metals, 1054.

Lazarev, A. I., and Lazareva, V. I. Colorimetric determination of titanium in alloy steel by the method of additions, 3750.

Lazareva, V. I. See Lazarev, A. L., 3750. Lazarov, N. I. Quantitative determination of fibrinogen in blood by paper electrophoresis, 174.

Leary, J. B. See Woodside, J. M., 3508. Leavitt, D. E., and Austian, J. Use of tetra-n-butylammonium hydroxide for the analysis of barbi-

turic acids, 3505.

Lebbe, J. See Moureau, H., 2150. Lebedeva, N. V. See Nazarenko, V. A., 2954, 3292. Lebez, D., and Dekleva-Likar, A. Paper chromatography of amino acids and peptides with ethanol,

LeBoeuf, J. See Braid, P. E., 1381.

Leboeuf, M. B. See Thompson, B. A., 4036.

Le Breton, E. G. See O'Hagan, J. E., 2325.

Lecco, A., and Saper, R. P. Spectrophotometric determination of nitrites, 2165.

Lecoq, H. Application of cerimetry in water analysis, 276.

Ledent, R. See Buydens, R., 3181. Lederer, M. Paper-electrophoretic separation of inorganic anions, 2881. Paper-electrophoretic separation of rare earths using one per cent. citric acid as electrolyte, 2921.

and Vernon, J. Purification of protactinium by chromatography and electrophoresis on paper, 3697.

— See also Levi, M., 1211. Ledwoch, K.-D. Ultra-violet spectroscopic analysis of alkylbenzenes, 1902.

Lee, D. A. Micro-determination of deuterium by effusiometry, 3993.

Lee, James K., and Weller, S. W. Determination of catalyst water by exchange with deuterium gas,

See also Hindin, S. G., 1574.

Lee, Jung K., and Adams, R. N. Potentiometric titration with controlled current. Coulometric titrations. [Determination of arsenic], 2173.

Lee. P. A. Determination of the impurity concentrations in a semi-conductor from Hall coefficient measurements, 1776.

Lee, T., and MacIntyre, S. A. Uranium-235 uranium-238 assay on the direct-reading optical spectrograph, 3326.

Leeder, J. G. See Doan, F. J., 3155.

Lee-Motter, R. P. See Per Lee-Motter, R.

Left, M. See Newark, H. L., 3146. Leftin, J. P. Photometric determination of molybdenum in zinc cyanide plating solutions, 2189.

Le Gallic, P. See Gero, E., 2800. Legault, R. R., and Groves, K. Determination of sulphoxides, 897.

Léger, J. See Étienne, A., 3769. Légrádi, L., and Füsti Molnár, S. Volumetric determination of sulphate ions, 3701.

Legrand, P. P. Detection of Naphthol yellow and other yellow colourants in "Dijon" mustard, 3906.

Lehar, L. See Snobl, D., 886.

Lehmann, H. A., and Kempe, G. Paper chromatography of sulphuric acid, its salts and derivatives,

Lehmann, K. See Schormüller, J., 657. Leibmann, W., and Woods, J. T. Determination of mononitrothiophen and dinitrothiophen in nitrobenzene, 1567.

Leiderman, Ts. A. See Poluéktov, N. S., 2906. Leitch, W. F. N., and Lewis, F. A. Silver nitrate titrations, 2084.

Leithe, W. Practical applications of gas chromato-

graphy, 11.

Leloir, L. F. See Cabib, E., 4244.

LeMar, R. L., and Bootzin, D. Diacetyl determination of urea, 133.

Lemieux, P. E. See Black, R. H., 409. Leminger, O. See Vacek, O., 300.

Leng. M. L. Chemical determination of piperazine present as the dihydrochloride in feeds and concentrates, 2817.

Lennarz, W. J. See Mueller, H. F., 2012. Lennon, H. D., and Mixner, J. P. Factors affecting the determination of plasma protein-bound

iodine, using the alkaline fusion - ceric sulphate method, 611.

Lennox, D. H. X-ray powder diffraction patterns of organic compounds, 970.

Lenskaya, V. N., and Kul'berg, L. M. Semi-micro cation-exchange method for determining calcium in cement, 43.

Lenz, I. See Fijolka, P., 596.

Leonard, M. A. See Belcher, R., 3588. Leonova, L. L. Luminescence determination of small quantities of uranium in igneous rocks,

Le Peintre, M., and Richard, J. Determination of sulphates in waters by direct titration, 2007.

Lerner, M. W. See Bertram, H. W., 2619, and Eberle, A. R., 491. Lesar, D. Spectrochemical analysis of Portland

cement and its raw materials, 4152.

Leslie, R. T., and Kuehner, E. C. Review of industrial applications of analysis, control and instrumentation.] Distillation analysis, 2867.

Lesniak, J. See Wnekowska, L., 157.
Lesnini, D. G. See Smith, R. N., 4057.
Lesse, P. See Kalousek, M., 2435.
Letzring, M. See Neuhaus, O. W., 191.
Leubner, H. Quantitative determination of proteo-

lytic activity in duodenal contents with natural substrates, 2358.

Leusher, F., and Estler, C. J. Determination of adenosine polyphosphates in mouse brain, 1950. Levedahl, B. H., and James, T. W. Deoxyribo-

nucleoside interaction as measured by rotatory dispersion, 2332.

Levenbook, L. Quantitative method for the automatic application of millilitre quantities on to paper chromatograms, 1405.

Lévêque, P. See Chauvin, R., 2472, and May, S., 2979.

Levi, L. See Chatten, L. G., 3130.
Levi, M., and Lederer, M. Paper chromatography of inorganic ions. XVI. Paper chromatography of technetium using a long-life isotope, 1211.

Levine, H. S., and Kleinschmidt, R. S. Principles

and problems in development of a dissolved

oxygen analyser, 1709.

Levine, J. Chromatographic assay of acetylsalicylic acid, acetophenetidine [phenacetin] and caffeine, 2761. Levine, S. Micro-amperometric titration of sul-

phydryl groups, 119. Levine, V. E., and Taterka, M. Determination of ketone bodies in blood and urine by means of vanillin in alkaline medium, 2321.

Levit-Gurevich, G. E. See Shapiro, M. M., 1858. Leviton, A. Quantitative ionophoretic determina-

tion of whey proteins in skim milk, 1692.

Levtova, A. P. See Kramarenko, V. F., 1661.

Levy, G., and Schwarz, T. W. Measurement of lubricating property of medicinal products, 976. Levy, L. W., and Molia, H. Hydrolytic method for the estimation of pyrethrin II in pyrethrum

flowers, 1395.

Levy, M. Urea solutions as titration media and the

basicity of urea, 3972.

Lévy, R. See Debal, E., 500. Lewis, B. Paper-chromatographic technique for the determination of plasma corticosteroids, 674.

Lewis, C. D. See Bennett, C. E., 3564. Lewis, F. A. Method for weighing pure alkali metals accurately, 2516.
See also Leitch, W. F. N., 2084.

Lewis, G. T. See Hausman, E. R., 2328. Lewis, J. A. See Arden, T. V., 4099. Lewis, J. C. See Snell, N., 1968.

Lewis, J. J., and Waton, N. G. Estimation of physiologically active, naturally occurring substances in the tissues and body fluids: acetylcholine, (-)-adrenaline, (-)-noradrenaline, hist-amine, serotonin and substance P. IV. Hist-

amine, 2731; V. [Histamine], 3092. Lewis, K. H. See McFarren, E. F., 3896. Lewis, W. H. P. See Stern, J., 1592. Liandier, L. See Godfrain, J. C., 1989.

Liang, S.-C., and Ch'eng, C.-Y. Colorimetric determination of fluoride. I. 8-Hydroxy-7-iodoquinoline-5-sulphonic acid and ferric iron as reagents, 501.

and wang, S.-J. Determination of molybdenum and tungsten. XI. 4-Amino-4'-chlorodiphenyl

as precipitant, 4089.

Libby, W. F. Absolute measurement technique for beta radioactivity. Application to naturally radioactivity. Application to naturally berman. M 17

Liberman, M. V. Determination of magnesium in the presence of aluminium, 3628.

Liberti, A. Coulometry applied to gas-phase

chromatography, 1766.

and Cartoni, G. P. Coulometric determination of thiols separated by gas chromatography, 2687.

Cartoni, G. P., and Pallotta, U. Vapour-phase chromatography of methyl esters of fatty acids and their quantitative determination by auto-

matic coulometry, 4319.

- and Ciavetta, L. Determination by automatic coulometry of chromium, manganese and van-

adium in steel, 4131.

Lichtenstein, H., and Reynolds, H. Inhibition of growth response by heavy inocula in the assay of vitamin B₁₂ with Lactobacillus leichmannii, 996. Lichthardt, U. Chromatographic identification of

fatty acids obtained in varnish analysis, 2306. Liddell, H. F., and Williams, S. M. Derivatives of I-amino-2-naphthol-4-sulphonic acid as reagents

for the colorimetric determination of zinc, 2133. Lieber, E., Rao, C. N. R., and Chao, T. S. Ultraviolet absorption spectra of substituted phenyl amino-1:2:3-triazoles, 3400.

Lieber, W. Quantitative determination of potassium with sodium tetraphenylboron, 3610.

Liebhafsky, H. A., and Winslow, E. H. [Review of industrial applications of analysis, control and instrumentation.] X-ray absorption and emission, 2867.

Liebold, G. See Weidmann, G., 2925. Lifsitz, J. R. See Parsons, J. L., 4032.

Ligny, C. L. de, Hellendoorn, A. S., Seelen, P. J., and Wijngaarden, D. van. Iodimetric method for the successive determination of copper and zinc,

and Luykx, P. F. M. pH Standard solutions in methanol, 3594.

Lilie, H. Photometric determination of aluminium in steel by means of Eriochrome cyanine, 1222. Determination of bismuth in lead and tin by extractive separation with thionalide, 2957.

and Rosin, H. Photometric determination of aluminium in alloy steels, 4123.

Lilly, Eli, and Co. Glucose indicator, 937. Lilova, O. M. See Preobrazhenskii, B. K., 1087. Lime, B. J., Griffiths, F. P., O'Connor, R. T., Heinzelman, D. C., and McCall, E. R. Spectro-photometric methods for determining pigmentation-β-carotene and lycopene-in Ruby Red grapefruit, 3188.

Lime-Sand Mortar Ltd. Apparatus for measuring the moisture content of sand or the like, 2833.

Limmer, G. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Short-wave u.v. lines for analysis by direct measurement, 1435.

Linch, A. L. See Koniecki, W. B., 4205.Linde, H. W., and Rogers, L. B. Determination of water vapour in nitrogen. Thermal conductivity measurement of hydrogen liberated from calcium hydride, 4055.

Lindeman, J. See Kling, R., 1171.

Lindemann, E. See Wurziger, J., 3907.

Lindemann, M. See Paukner, E., 1370.

Lindenberg, A. B. See Massin, M., 2341.

Lindgren, F. T. See Freeman, N. K., 646. Lindh, N. O. Classification and determination of sugars using the phloroglucinol reaction, 125.

Lindner, G. Analysis of pyridine bases, 148.

Lindvist, P. See Diczfalusy, E., 3863. Ling, E. R. Determination of calcium in milk and whey, 2782. Reviews of the progress of dairy science. Section C. Dairy chemistry. II. Milk composition and analysis and cheese ripening, 3516.

Lingane, J. J. Current integration with permanent magnet d.c. motors in controlled potential

coulometric analysis, 4397. See also Davis, D. G., 4007, and Kennedy, J. H.,

Linhart, K. Polarographic determination of carbon monoxide, 58.

and Zagmen, J. Polarographic determination of oxygen, 80.

Linn, R. A. See Williams, L. A., 3436.

Linné, W., and Wülfken, H. D. Determination of tetraethyl-lead in motor spirits by flame photometry, 3046.

Linnig, F. J. See Mandel, J., 2867. Linton, H. R., and Nixon, E. R. Infra-red spectra of silyl and silyl-da cyanides, 3391.

Lipchinskil, A. Determination of thallium by the method of internal electrolysis by anodic pre-

cipitation of tervalent thallium oxide, 417.

Lipis, L. V. See Zaidel', A. N., 448.

Liptschinsky, A. See Sagortschew, B., 4014.

Lisboa, B. P. Detection of pyridine and its derivatives, 3038. Quantitative determination of nicotinamide in the presence of nicotinic acid, 3172

Lisina, A. I. See Pentegova, V. A., 1934.

Liška, K., and Klir, L. Anion exchangers in analytical chemistry.

I. Sorption of the chloride complexes of certain metals on the anion-exchange resin OAL, 781; II. Separation of small amounts of cobalt from nickel, 845; III. Separation of small amounts of lead, zinc, cadmium, tin and bismuth from copper, cobalt and iron, 782.

Lišková, O. See Machovičová, F., 1965. List, P. H. New aid to paper chromatography, 2045. Liteanu, C., and Mathé, I. Irreversible redox indi-cators. I. Photometric determination of anti-

mony by titration with bromate in the presence of methyl orange or methyl red as irreversible redox indicator, 1816.

Litvin, K. I. Determination of the alkaline-earth metals (barium, calcium, magnesium) by homogeneous precipitation, 3633.

Litvinenko, L. M., and Grekov, A. P. Quantitative determination of halides and anhydrides of carboxylic acids, 2242.

Polyakov, V. P., Grekov, A. P., and Chernetskaya, A. M. Analysis of aminophenazone in the control of amidopyrine production, 1679. Analy-

sis of acetylsalicylic acid chloride, 3885.
Litvinova, N. F. See Turovtseva, Z. M., 1068.
Liu, C. H. See Laitinen, H. A., 4385.
Liu, D. K. H. See Collard, T. H., jun., 1464.
Liu, R. See Kallmann, S., 2934.
Livingstan, E. W. 1116.

Livingston, E. M. Ultra-micro determination of fructose with p-anisyl blue ditetrazolium chloride.

Maurmeyer, R. K., and Worthman, A. Micro-determination of fructose with the phenol reagent, 1548.

 See also Salomon, R. E., 3513.
 Livshits, D. M., and Kashlinskaya, S. É. Spectrographic determination of gold, platinum, palladium and rhodium in low-content materials (ores, slags and waste solutions), 2898.

Lizarduy, M. L. Rexach-M. de. See Rexach-M. de Lizarduy, M. L. Llewellyn, D. R.

See Abraham, M. H., 2676. Llewellyn, P. M. Solid state paramagnetic resonance spectrometer, 334.

Lloyd, C. J. See Garratt, D. C., 2754.

Lock, L. C. See Anderson, J. R. A., 1991, and Garnet, J. L., 2135, 2933. Lodge, J. P., jun. See Tufts, B. J., 2197. Loeuille, E. [Seminar of the Centro Ricerche

Spectrochimiche of the Associazione Italiana di Metallurgia.] Applications of emission spectrography, 15.

Loew, M. See Rappaport, F., 207.

Logie, D. Analysis of chlorophenols by anion-

exchange chromatography, 571.

Logun, J. See Ma, T. S., 856.

Lohman, F. H. Spectrophotometric determination of carbonyl oxygen, 3367.

Lomakina, L. N., and Tarasevich, N. I. [Conference on Methods of Analysis of Rare and Non-Ferrous Metals. Moscow, 1956.] Microchemical determination of copper with bromobenzotriazole. 1442. Determination of palladium by means of triazoles, 2220.

Lombaert, R. See Schram, E., 2149.

Longuet, P. See Courtault, B., 2137.

Longuevalle, S. See Domange, L., 1970.

Loo, Y.-C. See Tsao, K.-H., 76.

Loomeijer, F. J., and Luinge, G. M. Paper chromatography of weakly polar steroids. Additions to the method of Neher and Wettstein, 4270.

Lopatina, N. I. See Solov'ev, L. T., 649. López Pérez, C. A. See Fischbach E., C. E., 948. Loraine, J. A. Quantitative determination of pituitary gonadotrophins in urine, 3453.

Loras. V., and Leschbrandt, F. Gravimetric and absorptiometric determination of lignin in pulp and wood, 165.

Lord. R. C., and McCubbin, T. K., jun. Infra-red spectroscopy from 5 to 200 microns with a small grating spectrometer, 1059.

Lorenz, F. See Machek, G., 4282.

Loschbrandt, F. See Loras, V., 165.

Losev, I. P. See Trostyanskaya, E. B., 1046.

Losev, N. F. See Ivoilov, A. S., 4043. Lototskii, S. E. See Golovatyi, R. M., 366.

Lott, P. F., and Cheng, K. L. Spectrophotometric determination of iron in clay and limestone, 1520. Reference standards for EDTA solutions, 3968.

Love, D. L. Radiochemical de polarographic methods, 3238. Radiochemical determinations using

— See also Kinney, C. R., 1291, and Sun, S.-C., 4308. Loveland, J. W. See Cali, L. J., 1918. Lovelock, J. E. Sensitive detector for gas chromato-

graphy, 3208.

Loveridge, B. A. Determination of radio-calcium and radio-strontium in effluent, 3543.

and **Thomas**, A. M. Determination of radio-strontium in effluent, 1389.

Lovett, J. E., and Roberts, J. O. Isotopic analysis of uranium, 496.

Loy, R. G., McShan, W. H., and Casida, L. E. Purification and determination of progesterone from luteal tissue, 2750.

Lu, M.-L. See Pang, S.-W., 4068. Lübbers, D., and Niesel, W. "Split-second" spectrophotometer for the registration of rapid changes in absorption, 1056.

Lubran, M., and Moss, D. W. Determination of serum albumin concentration using 131 I-labelled albumin, 662.

and **Pearson**, **J. D.** Screening test for steator-rhoea using ¹³¹I-labelled triolein, 3844.

Lucas, H. L. See Dicks, M. W., 3169. Lucchesi, C. A., and DeFord, D. D. Gravimetric determination of boron. Precipitation as nitron tetrafluoroborate, 401.

Ludbrook, J. See Wynn, V., 173.

Ludemann, W. D. See Sass, S., 890.

Ludwig, B. J., and Hoffman, A. J. Colorimetric determination of meprobamate in biological fluids, 2317.

Lueck, C. H., and Boltz, D. F. Indirect ultra-violet spectrophotometric determination of phosphorus, 2167.

Luedemann, G., Sobolev, I., Russell, R., and Reed, E. Determination of micro quantities of pentachlorophenol in pulp and paper, 164.

Luinge, G. M. See Loomeijer, F. J., 4270.

Lukasiewicz, D. B. See Rice, E. W., 670.

Lukaszewski, G. M., Redfern, J. P., and Salmon, J. E. Volumetric determination of phosphates and of metals in the presence of phosphates. II. Complexometric determination of metals in the presence of phosphate with dithizone as indicator, 72.

Luke, C. L. Determination of sulphur in nickel by the evolution method, 531. Photometric determination of chromium in electronic nickel, 2609.

Luk'yanenko, L. P. See Mal'tsev, V. F., 4127. Lumme, P. O. Infra-red absorption spectra of pyridine- and quinoline-monocarboxylic acids, 3401

Lumpkin, H. E. Low-voltage techniques in highmolecular-weight mass spectrometry, 2864.

Lunan, K. D. See Downs, J. J., 3859.

Lundquist, F. Enzymic determination of acetaldehyde in blood, 3440.

Lupan, S. Complexometric determination of thorium in the presence of cerium, 4054.

Lupant-André, F. Estimation of mercury in organic compounds, 1347.

Lur'e, Yu. Yu., and Minenko, A. N. Determination of arsenic in lead of high purity by means of a complexone, 1492. Determination of low

— and Nikolaeva, Z. V. concentrations of lead, 62.

and Zaglodina, T. V. Determination of antimony in high-purity lead, 3688.

Lutenko, N. N. See Zaichikova, L. B., 1806.

Luthardt, K., and Pohloudek-Fabini, R. Microdetermination of tartaric acid, 1892.

Lüthi, H. See Vetsch, U., 4358.

Luthra, P. N., and Tayal, J. N. Colorimetric estimation of vitamin D, 999.

Luthy, N. G., and Lamb, B. Polarographic detection of 5-pyrimidinyl disulphides, 895.

Luykx, P. F. M. See Ligny, C. L. de, 3594. Lyalikov, Yu. S. See Bardin, M. B., 538.

Lykken, L., Mitchell, L. E., and Woogerd, S. M. Sampling crops for residue analysis, 1721.

Lyndersen, D. L., and Opem, M. Steam-distillation of ammonia from soil extracts, 3551.

Lyon, W. S. Determination of neptunium-239 counting efficiency, 94.

Lyons, J., & Co., Ltd. Instruments for indicating or measuring moisture content of materials, 2033. Lyons, T. D. See Andrews, A. C., 942.

Lysenko, V. I., and Tsyb, P. P. Polarographic

determination of gallium, 1468.

Lysyj, I., and Zarembo, J. E. Quantitative determination of sulphur in organic compounds, 2663.

M., J. R. Detectors for vapour-phase chromatography, 1042. Methods of analysis by adsorption, 1083.

Ma, T. S. [Review of industrial applications of analysis, control and instrumentation.] Organic microchemistry, 2867. Micro-analysis of organic fluorine compounds, 3361.

Lang, R. E., and McKinley, J. D., jun. Determination of non-aminoid nitrogen by the micro-Kjeldahl method. I. Aromatic nitro compounds, 1246.

Logun, J., and Mazzella, P. P. Gravimetric micro-determination of carbonyl groups by hydrazone formation, 856.

See also Maurmeyer, R. K., 735.

Maass, I. Separation and applications of stable isotopes. 11. Preparation of gas samples for mass-spectrographic determination of isotope abundances, 3583.

Mabuchi, H. See Kimura, K., 2601.

Macallum, A. B. Bioassay of insulin by the compensation method, 967.

McAnally, J. S. See Hausman, E. R., 2328.

McBryde, W. A. E. See Maynes, A. D., 802.

McCall, E. R. See Lime, B. J., 3188.

McCann, D. See Goodwin, J. F., 4248.

McCarter, J. A. Fluorescence spectrum attachment for Beckman DU spectrophotometer, 2057.

McCarthy, J. H., jun., and Stevens, R. E. Apparatus and technique for multiple tests by the confinedspot method of colorimetric analysis; field estimation of nickel and copper, 2998.

McCarthy, J. L. See Back, E., 1738.

McClenahan, W. S. See Sullivan, L. J., 899.

McClure, J. H. See Adams, R. N., 2856.

McCollum, F. See Stalcup, H., 929.

McComb. E. A. Formamide as an extraction solvent in Karl Fischer method for determining moisture in lactose and maltose, 868.

McConnaughey, P. W. See Mine Safety Appliances Co., 2606.

McCormick, G. J. See Seligson, D., 3821.

McCrone, W. C. See Laskowski, D. E., 3040.

McCrory, G. A., and Scheddel, R. T. [Infra-red quantitative analysis data.] Determination of toluene in methylcyclohexane, 4227.

McCubbin, T. K., jun. See Lord, R. C., 1059.

McCullough, J. P., and Waddington, G. Melting-point purity determinations: limitations as evidenced by calorimetric studies in the melting region, 749.

McCurdy, D. H. See Szerl, J. C., 3437. McCurdy, W. H., jun., and Galt, J. Conductimetric

titration of weak bases, 3372.

Macdonald, A. M. G. Analysis for industry. [I.] [Organic fluorine compounds], 1247; [II.] [Determination of other elements in fluorinated organic compounds], 1875.

— See also Belcher, R., 504, 1248.

McDonald, A. N. C. See Bailey, P. H., 3544.

McDonald, H. J., Bermes, E. W., jun., and Shepherd, H. G., jun. Pa Paper chromatography in a centri-

and McKendell, L. V. Two-dimensional chromatography on a rotating paper disc, 3201.

McDonald, I. W., and Hall, R. J. Conversion of casein into microbial proteins in the rumen. Determination of casein], 1642.

MacDonald, R. P., and Ploompuu, J. Ultra-micro determination of drugs in blood serum. II. Free sulphanilamide, 3439.

McDougal, D. B., and Farmer, H. S. Fluorimetric method for total scrum cholesterol. 2351.

McEniry, M. A. Determination of theophylline and aminophylline by non-aqueous titration, 959. Method for determination of mannitol hexanitrate, 961.

McFadden, W. H. Use of mixed stationary liquids in gas - liquid chromatography, 3207.

McFarland, J. S. See Mapstone, G. E., 912. McFarren, E. F., Schantz, E. J., Campbell, J. E., and Lewis, K. H. Chemical determination of para-

lytic shellfish poison in clams, 3896. McGarvey, F. X. See Kunin, R., 2867. McGrew, C. E. See Van Etten, C. H., 877.
McGuire, R. L. See Chittum, J. W., 4182. Mach, M. See Pavlik, M., 2002, 2009.

Machek, G., and Lorenz, F. Colorimetric determination of chloramphenicol cinnamate, 4282.

Machida, H. See Aihara, T., 3121.

Machlan, L. A., and Hague, J. L. determination of tungsten in steel and titanium alloys with dithiol, 2996.

Macho, L. Detection of esters of phosphoric acid on paper chromatograms, 2258.

Machovičová, F. Chromatographic separation of

reserpine, reserpic acid, and yohimbine, 2367.
- Parrák, V., Lišková, O., and Ružičková, J.
Determination of reserpine, ajmaline and serpentine in mixtures, 1965.

McIntyre, A. R. See Hendrickson, M. J., 1713. Flame-spectrophotometric deter-MacIntyre, I. mination of calcium in biological fluids and an isotopic analysis of errors in the Kramer - Tisdall procedure, 606.

MacIntyre, S. A. See Lee, T., 3326.

MacIntyre, W. J., and Christie, J. H. Well scintillation counter for improved volume efficiency, 2473. Acetylacetone extractions in

McKaveney, J. P. ferrous analysis. [I], 1218; [II], 3340.

and Freiser, H. Analytical solvent extraction of vanadium using acetylacetone, 2958.

McKay, E. S. Separation of rhodium from other platinum-group metals by ion exchange, 2218. See also **MacNevin**, W. M., 534.

McKay, H. A. C. Detection of plutonium (239 Pu) by irradiation in the pile, 92.

Alcock, K., and Scargill, D. Fission-product partition data for butex (dibutyl Carbitol), 3263. McKendell, L. V. See McDonald, H. J., 3201. McKennis, H., jun., Weatherby, J. H., and Dellis,

E. P. Gasometric determination of hydrazine and derivatives, 3028.

Mackey, D. R., Brogan, J. W., Birch, H. J., and Weber, A. E. Determination of hydroxylic impurities in methyl borate by infra-red spectrophotometry, 1557.

— See also Krol, A. J., 1556. McKinley, J. D., jun. See Ma, T. S., 1246. McKinley, W. P., and Devlin, W. F. Determination of \(\Delta^4\)-3-oxosteroids by measurement of the absorbance of their 2:4-dinitrophenylhydrazones,

Mackintosh, W. D., and Jervis, R. E. Determination of low concentrations of hafnium in reactor-grade zirconium metal and zirconium alloys by neutron

activation analysis, 4050.

McLafferty, F. W. Mass-spectrometric analysis.

Aliphatic ethers, 2477. Mass spectrometry in chemical research and production, 2880.

Maclagan, N. F., Bowden, C. H., and Wilkinson, J. H. Metabolism of thyroid hormones. II. Detection [and determination] of thyroxine and tri-iodothyronine in human plasma, 641.

McLaughlan, J. M., Rogers, C. G., Middleton, E. J., and Campbell, J. A. Estimation of vitamin B₁₂ in natural materials of low potency, 3534.

McLeod, D. P. See Szerl, J. C., 3437.

MacMasters, M. M., Wolf, M. J., and Seckinger,

H. L. Microscopic characteristics of starches in the identification of ground cereal grains, 977.

McMullen, W. H. See Ciaccio, L. L., 1277, and

Pazdera, H. J., 1327. McNabb, W. M. See Schuele, W. J., 3193. See Brake, L. D., 2217, and

McNary, R. R., Dougherty, M. H., and Wolford, R. W. Determination of the chemical oxygen demand of citrus waste waters, 1710.

McNerney, W. N., and Wagner, W. F. Determina-tion of molybdenum in titanium alloys by precipitation using thioacetamide, 482.

MacNevin, W. M., and Dunton, M. L. Separation of platinum, palladium, rhodium and iridium by paper electrochromatography, 1531.

and McKay, E. S. Separation of rhodium from platinum, palladium and iridium by ion exchange, 534.

McOmie, J. F. W. See Pollard, F. H., 2209.

Macovei, V. See Papafil, E., 4001.

Macovschi, E., and Motet-Grigoras, D. Polarograph for potentiometric pH determinations, 2851.

McPhee, J. R. See Cecil, R., 208.

Macrea, H. F., and Baker, B. E. Electrophoresis on paper and the estimation of alpha-, betaand gamma-casein, 3899.

McShan, W. H. See Loy, R. G., 2750. McWilliam, I. G., and Dewar, R. A. Flame-ionisation detector for gas chromatography, 4364.

Madanov, P. V., and Volkin, L. M. Determination of total exchange alkaline-earth bases in carbonate-free black earth, 1718.

Madar, J. Polarographic estimation of univalent copper in the presence of bivalent copper in ammoniacal solution of cuprous acetate, 30.

Maddock, R. S. See Neinke, W. W., 19.

Maddock, W. O. See Epstein, E., 954.

Mader, W. J. See Rehm, C. R., 2231, and Slack, S. C., 3509.

Madison, J. J. See Roberts, R. M., 1027.

Maeck, W. J., Booman, G. L., Elliott, M. C., and Rein, J. E. Separation of uranium from diverse ions—study of the hexone [isobutyl methyl ketone] liquid - liquid extraction system, 3718.

Maennchen, K. See Mutschin, A., 3682. Magalhães, M. T. See Taveira Magalhães, M.

Magalini, S. See Cinotti, G. A., 228.

Magee, J. B., and Crain, C. M. Recording microwave hygrometer, 3574.

Magee, R. J. See Dawson, J., 3664, 3687, and Spitzy, H., 513.

Magliocca, T. S. See Williams, J. P., 2605. Mahon, J. H. See Anglin, C., 3927.

Mahoney, M. J. See Washburn, W. H., 3817, 4369. Mai. L. A. Volumetric method for the determina-

tion of uric acid in urine, 4234.

- Yavorkovskii, L. I., and Krumin', E. Ya. Quantitative determination of vitamin B12 in blood serum with Escherichia coli, 3838.

Maienthal, E. J. See Richmond, M. S., 1235.

Maier, R. H., and Kuykendall, J. R. Application of complexing agents in the photometric determination of zinc and copper with zincon, 4015.

Maier-Sihle, L. See Klingmöller, V., 2337.

Main, R. K., Cole, L. J., Bryant, L. M., and Morris, S. K. Constant-rate flow device for electrolyte eluents in column chromatography, 1041.

Mair, B. J., Eberly, P. E., jun., Krouskop, N. C., and Rossini, F. D. Separation of 132° to 138° C fraction of petroleum. Bicycloparaffins in gasoline fraction of petroleum, 2703.

- and Shamaiengar, M. Fractionation of certain aromatic hydrocarbons with molecular-sieve

adsorbents, 2261.

Majer, J., and Peroutka, O. Precipitation titration of N-methoxymethyl-ε-caprolactam polymers, 2722.

and Tomásch, E. Potentiometric determination of iodide and iodine in iodine - iodide solutions, 1514.

- See also Tölgyessy, J., 217.

Majka, F. A. See Humoller, F. L., 3489.

Majumdar, A. K., and Chakrabartty, M. M. Bismuthiols as colorimetric reagents for palladium, 535. Electrochromatography in the separation of inorganic ions. [I.] Separation of precious metals, 848; II. Separation of precious metals, 1869. 2-Mercaptobenziminazole and 2-mercaptobenzothiazole as analytical reagents. Estimation of palladium, 2219. Circular-paper chromatography in the separation of ions. Separation of precious metals, 4142.

and Chowdhury, J. B. R. Separation of niobium

and tantalum with cupferron, 2181.

and mukherjee, A. K. Separation of niobium and tantalum with N-benzoyl-N-phenylhydroxylamine, 1821.

and Savariar, C. P. Catechol violet for the determination of molybdenum, vanadium and

tungsten, 3716.

and Singh, B. R. Electrochromatography in the separation of ions. III. Separation of silver-group metals, 2892; IV. Separation of copperand tin-group metals, 3987; V. Separation of third-group metals, 3987.

Majumdar, S. K., and Banerjee, N. G. Volumetric

determination of sulphur in coal, 2286.

Makarova, V. P. See Lapin, L. N., 2812

Makar'yants, A. I., Zaglodina, T. V., and Shuvalova, E. D. Determination of small quantities of copper, silver and bismuth in lead, 437.

Maki, M. Electrophoresis. XIX. Separation and quantitative determination of rare earths in

monazite sand, 3289.

Makower, S., and Garlock, N. B. Determination of percentage non-volatile in coating materials, 2305. Maksai, L. I. See Krasil'nikova, L. N., 4024.

Maksimović, Z. B. Separation of cerium and europium from uranium by organic co-precipitants, 831.

Malát, M., and Tenorová, M. Comp titrations (chelatometry). XXXIV. Complexometric titrations (chelatometry). azurol S as an indicator for the determination of thorium, nickel, cerium and lanthanum, 2586.

See also Ryba, O., 782, and Suk, V., 3969. Malatesta, P., and Dubini, M. Reagent for the colorimetric micro-determination of hydrocyanic acid, 2928.

Malek, J. See Lacko, L., 127.

Malenskaya, V. P. See Sheyanova, F. R., 1794.

Malhotra, M. K. See Handa, K. L., 2369.

Malhotra, O. P., and Anand, V. D. Colorimetric estimation of chloral hydrate, 1882. Estimation of of dichloroacetaldehyde, 3380. Estimation of di- and tri-chloroacetaldehydes in the presence of each other, 3780.

Malissa, H. Determination of the carbon content of organic and inorganic substances, by conductivity measurements, 1242.

· See also Koch, W., 3195, and Schöffmann, E., 2156.

Malkemus, J. D., and Swan, J. D. Analysis of polyethylene glycol esters, 1898.

Malkus. Z. Determination of tin in foods by

oscillographic polarography, 2772. Schoberová, I., and Fürst, F. Determination of

copper in pectin, 3150. Mallach, H. J. See Paulus, W., 2385.

Mallett, M. W. See Hansen, W. R., 1493.

Malmstadt, H. V. Automatic stopcock twister,

Mal'nev, A. F. See Savinov, B. G., 721.

Maloney, C. M. See Strickland, R. D., 1646.

Malowan, L. S. Colour test for nitrates employing Michler's ketone, 2587.

Mal'tsev. V. F. Rapid determination of aluminium in high-alloy steels, 4125.

- and Luk'yanenko, L. P. Colorimetric determination of large contents of silicon in high-alloy steels and fluxes for electro-welding, 4127.

Mal'tseva, N. N. See Shakhova, Z. F., 429. Malý, A. See Čelikovský, J., 1997. Malý, V. Determination of copper in industrial

curd [for cheese], 1694.

Malyarov, K. L., and Gibalo, I. M. [Conference on Methods of Analysis of Rare and Non-Ferrous Metals. Moscow, 1956.] Removal of titanium from niobium and tantalum with acridine, 1442. See also Gibalo, I. M., 1442.

Mamenko, A. U., and Chuiko, V. T. Study of the co-precipitation of traces of copper with the 8-hydroxyquinolinates of metals, 1454.

Mamiya, M. See Muto, G., 3657. Man, T. J. de. See Mulder, F. J., 998. Manci, C. See Siniramed, C., 3765.

Mandel, J., and Linnig, F. J. [Review of industrial applications of analysis, control and instrumentation.] Statistical methods in chemistry, 2867.

Mandel'berg, I. R. See Zarinskiš, V. A., 4395. Mandelstam, S. Spectrochemical analysis by the evaporation method, 3212.

Mandl, R. H. See Block, R. J., 3432.

Mandryka, N. V., and Kalutskaya, N. P. Determination of iron in used lubricating oil, 3049.

Manelkar, S. S. Analysis of driers, 920.

Mangan, G. F., jun., and Mason, J. W. Fluorescence of ethylenediamine derivatives of adrenaline and noradrenaline, 1612.

Mangan, J. L. See Chibnall, A. C., 3465.

Manganelli, R. M., and Brofazi, F. R. Quantitative determination of volatile acids by paper chromatography for application to sewage-sludge digestion,

Mangold, H. K. See Schlenk, H., 2405.

Mann, C. K., and White, J. C. Extraction of chromium with trioctylphosphine oxide from acidic solutions of alkali-metal salts. Determination in situ as chromium - diphenylcarbazide complex,

Mann, Charles K. Polarographic cell for continuous monitoring of ion-exchange effluents, 761.

Mann, L. T. See Downs, J. J., 3859.

Manna, L., Strunk, D. H., and Adams, S. L. Flamespectrophotometric determination of microgram quantities of magnesium, 1456.

Manning, D. L. See Goldstein, G., 2976, and Menis, 0., 372, 433, 498, 806.

Manoliu, C. Eriochrome cyanine as an indicator in chelatometry, 2499.

Manoušek, O., Konupčík, M., and Davídek, J. Polarography of derivatives of urea and thiourea. Polarographic determination of 4-amino-1:3-dimethyl-5-nitrosouracil in production samples, 2249.

and Zuman, P. Polarography of urea and thiourea derivatives. IX. Determination of thiobarbituric acid derivatives and of 4-methyl-2-thiouracil in pharmaceutical preparations, 235.

See also Davidek, J., 3883.

Manterfield, D. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Steelworks analysis by spectrographic methods,

Manthey, J. A. See Kleinschmidt, W. J., 3452.

Manton, J. E. See Cullis, C. F., 909.

Mantsavinos, R., and Christian, J. E. Polarographic

study of cytotoxic nitrogen mustards, 4191.

Manu, V. See Medianu, B., 4117.

Manuele, R. J., and Sosa, J. P. Polarographic determination of indium in bearing coatings,

Mapper, D. See Smales, A. A., 800, 1175.
Mapstone, G. E., Keppie, A. T., and McFarland, J. S. Determination of neutral oils and pyridine bases in cresylic acid, 912.

Marchenko, P. V. See Babko, A. K., 2549. Marchenko, T. V. See Baranova, E. S., 1661.

Marcus, A. D. See Taraszka, A. J., 3889.

Marcuse, R. [Scandinavian symposium on fat rancidity. Elsinor, 1957.] Determination of fat stability with regard to oxidative rancidity, 3527.

Marczenko, Z. Colorimetric determination of antimony (iodide method) and tin (molybdenum blue method), 77. Wofatit P in the analysis of bearing alloys. Separation of copper from tin and antimony, 2120.

Marelli, O. M. See Calò, A., 4294.

Mareš, E. Formation of polyglycerols by etherification of glycerol, 1546.

Mares, V. See Blazek, J., 1683.

Maresh, C., Coven, G., and Cox, R. [Review of industrial applications of analysis, control and instrumentation.] Chemical microscopy, 2867.

Margerum, J. D. Analysis of uranyl oxalate with ceric sulphate using differential ultra-violet spectrophotometry, 2192.

Margolis, D. See Porter, C. A., 1314.

Margrat, H. W. See Weichselbaum, T. E., 673.

Margrave, J. L. See Cohen, S. H., 784.

Mariani, A., and Vicari, C. Chromatographic separation of α-, β-, y- and δ-tocopherols, 4323.

— See also Calò, A., 4294.

Marinetti, G. V. See Wittner, R. F., 197.

Marini-Bettolo, G. B., and Frugoni, J. A. C. Port-

able apparatus for paper electrophoresis, 4381.

Marinković, M. D. See Pešić, D. S., 1844.

Marinkovi, S. N. See Pešić, D. S., 1844.

Marino, J. See Seligson, D., 2318, 3939.

Markman, A. L., and Zinkova, É. V. Polarographic

behaviour of geometrically isomeric acids, 562.

Marko, A. M. Chromatographic determination of glutamic, aspartic and cysteic acids using an anion-exchange resin, 3094.

Markova, L. V. Stilbnaphthazo as an indicator for the determination of sulphate ions, 1830.

Markovič, O., and Rexová, L. Determination of (-)-hyoscine in the presence of excess of morphine and ethylmorphine, 2361.

Markovitz, A., and Steinberg, D. Determination of peptides in presence of free amino acids, 1954.

Marks, A. See Gaensler, E. A., 616.
Markwardt, F. Determination of thrombin by titration with hirudin, 2323.

Marley, J. L., and Articolo, O. J. Determination of tin in Zircaloy and uranium - Zircaloy: colorimetric procedure, 1157.

Marmorston, J. See Katz, J., 2344.

Analysis of sodium formaldehyde-Maros, L. bisulphite and sodium formaldehydesulphoxylate (rongalite), 3779.

Marple, T. L., Matsuyama, G., and Burdett, L. W. Non-aqueous titration of zinc. Rapid method for zinc in lubricating oils, 3407.

Márquez, M. C. See Caranza Márquez, M., 3962. Marranzíno, A. P. See Ward, F. N., 2010.

Marsh, G. H. See Foster, D. H., 3511. Marstaller, H. See Zahn, H., 3461. Martel, J. See Gracián, J., 707.

Martens, G., and Schwartz, K. Complexometric determination of copper and manganese in the presence of each other, 2523.

Martens, P. H. Determination of potassium in compound fertilisers by flame photometry, 2814. Marth, P. T. See Wagener, J. S., 4403.

Martin, A., and Caligaris, L. S. de. Colorimetric determination of pregnanediol in urine, 1652. Martin, A. E. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] analyst and infra-red spectroscopy, 2478.

See also Parsons, C. A., & Co. Ltd., 1023, 1025, 2031, 2055, and Parsons, Sir Howard Grubb, & Co.

Ltd., 1024, 2048, 2831. Martin, A. J. Potentiometric titration of halide

mixtures, 2196.
Martin, C. J., Golubow, J., and Axelrod, A. E. Rapid and sensitive determination of chymotrypsin and trypsin activity, 3870.

Martin, E. C. See Anderson, J. R. A., 1991. Martin, E. U., un. See Merritt, L. L., jun., 3226.

Martin, F. See Vertalier, S., 4163.

Martin, F. M. See Moreno Martin, F.

Martin, J. B. See Bergel, F., 182.

Martin, J. J. See Sass, S., 3026.

Martin, J. M., jun., Johnston, R. W. B., Cannon, H. J., and O'Neal, M. J. Infra-red absorption method for measuring phase transitions of waves

method for measuring phase transitions of waxes,

Martin, J. T. Spray application problems. XXI. Assessment of deposits of copper fungicides, 728. and Batt, R. F. Spray application problems. XXIII. Determination of deposits of DDT, y-BHC, and chlorbenside, 728.

and Pickard, J. A. Spray application problems. XXII (2). Determination of captan deposits, 728. Martin, J. V. See Everest, D. A., 2158.

Martin, R. P. Reversed-phase paper chromatography and detection of steroids of the cholesterol class, 667.

Martinez, E. N. See Niño Martinez, E. Martinez, F. B. See Bermejo Martinez, F. Marty, A. See Nordmann, R., 3089.
Martynchenko, I. U., and Bondarenko, A.

Photometric determination of boron in steel, 1225. Martyukhina, I. P. See Bogina, L. L., 3815, 4113. Maruna, R. F. L. Serum sodium estimation, 1588. Marunina, A. T. See Vasil'ev, A. M., 370.

Maruo, H. See Jono, W., 814. Maruyama, M. Determination of ascaridole. III. Examination of the iodimetric titration, 687 IV. Comparison between the polarographic and iodimetric methods, 687. Polarographic determination of pyrazinamide, 4295.

Marville, R. See Dubouloz, P., 628. Marvin, K. T., and Lansford, L. M. Production of large amounts of pure water, 3194.

Marx, W. See Freeman, L., 640.

Marxová, I., and Zýka, J. Hydrazine sulphate as a volumetric reagent (hydrazinometry). VI. Volumetric determination of nitrites suitable for the control of drugs, 69.

Mashall, J., and Geyer, L. Titration of calcium with EDTA in the presence of limited amounts of

fluoride, 2128.

Masi, O. [Seminar of the Centro Ricerche Spectrochimiche of the Associazione Italiana di Metallurgia.] Development of spectrographic analysis in the laboratories of the Italian metallurgical industry in the last decade and the activity of

the C.R.S., 15.

Maslennikov, B. M., and Romanova, L. V. Spectrographic semi-quantitative determination of boron in ores and minerals, 2552.

Maslova, G. B., Suslova, É. A., and Chmutov, K. V. Chromatographic separation of lithium and magnesium, 357.

Mason, G. L., and Beer, Z. de. Spectrochemical solution method for the determination of copper. cobalt and iron in copper and cobalt concentrates.

Mason, G. W. See Peppard, D. F., 1474.

Mason, G. W. See Peppard, D. P., 1612.

Mason, J. W. See Mangan, G. F., jun., 1612.

Mason, M. and Wagienka, L. C. "Salting-out" Mason, M., and Wegienka, L. C. chromatography: empirical equations relating R_F values to atomic refraction constants, 2343.

Massarotti, A. Catalytic esterification of olive oil fatty acids and their detection in olive oils, 4318. Masse, Mlle. Colorimetric determination of nitrogenous substances in complex mixtures as reineckates, 3879.

Massin, M., and Lindenberg, A. B. Micro-determination of tyrosine by the colour reaction with 1-nitroso-2-naphthol, 2341.

Mastner, J. See Franck, F., 2442.
Masui, M., and Fujioka, S. Colour reaction of N-alkylhydroxylamines, 3386. See also Takiura, K., 2997.

Matama, Y. See Shinagawa, M., 1095.

Matarese, L. Constants of the total fatty acids from various animal and vegetable sources. Utilisation for the recognition of esterified oils, 3910.

Matern, J. See Krebs, K. G., 4272.

Máthé, I. See Liteanu, C., 1816.

Matherny, M. Determination of sulphuric acid in commercial lactic acid, 2239.

Mathers, A. P. See Nelson, R. A., 3903.

Mathur, G. M., Lal, J. B., Nigam, V. N., and Kapoor, S. N. Interfering action of esters other than acetates in the estimation of alcohols in synthetic mixtures by acetylation. I, 2710.

Matkovics, B., and Kovács. E. Photometric determination of reducing substances [in nutrient

media], 3103.

Matocha, C. K. See Tingle, W. H., 3214.

Matoušková, J. See Munk, V., 2314.

Matrka, M., and Navrátil, F. Cerimetric determination of Heliogen blue SBL, 162.

Navrátil, F., and Filipi, J. Analytical evaluation of indigosol dyes, 2296.

- and Sagner, Z. Reductimetric determination of pyrazole-anthrone with the use of vanadium^{II} sulphate, 896. Titration of triphenylmethane dyes with vanadium^{II} sulphate in the presence of sodium xylenesulphonate, 3809.

Matsch, E., and Graf, F. Determination of phydroxypropiophenone in urine, 622.

Matskanova, M. A. See Vanag, G. Ya., 449.

Matsui, R., Ito, Y., Yasui, E., and Suzuki, H. Determination of acetylene, hydrocarbons and carbon dioxide in liquid oxygen, 554.

Matsuka, Y. See Suzuki, Yukio, 1499.
Matsukawa, E. See Eaborn, C., 2102.
Matsumoto, C. See Oto, Y., 1859.
Matsumoto, K. Pharmaceutical analysis by polaro-

graphy. XVI. Assay of morphine separated by ion exchange, 3104.

Matsuo, H. See Shinagawa, M., 1095.

Matsuura, N., and Kojima, M. Analytical studies on microgram quantities of antimony. Decomposition and concentration of antimony in lead, 461.

and Tomura, S. Analytical studies on microgram quantities of antimony. III. Paperchromatographic behaviour of chloroantimonic acid, 461.

Matsuyama, G. See Marple, T. L., 3407. Mattei, F. See Citterio, C., 3826. Matthias, R. H. Sub-sampling in control laboratory problems, 1.

Mattock, G. Accurate measurement of pH. II. Sources of experimental error in pH measurement, 772; III. Discussion of examples, 2484.

Matveeva, A. N. See Bobrova, M. I., 567.

Matzke, J. R. See Sorensen, L. M., 4183. Maurel, R. Experimental precision in quantitative

analysis by gas chromatography, 1434.

Maurice, M. J. U.v. spectrophotometric determination of elementary sulphur, 472. Comparison of methods for the determination of colloidal sulphur, 473. Comparison of methods for the determination of sulphide sulphur, 474. Statistical methods in analytical chemistry, 2072.

Determination of total sulphur in viscose, 2716. and **Heynis**, **J. W. Y.** New type of Parr bomb,

- and Mulder, J. L. U.v. spectrophotometric determination of potassium ethylxanthate, 1554. Maurmeyer, R. K., and Ma, T. S. Device for drying precipitates, 735.

See also Livingston, E. M., 1548. Maury, M. J. See Root, M. J., 153.

Maxwell, J. M. R., and Budd, S. M. Volumetric determination of silica in glass, sand and silicate materials, 428.

May, G. J. See Tawn, A. R. H., 1298. May, I., Kramer, H., and Curtis, E. L. Device for varying burner height in Beckman flame photometer, 1050.

May, S., and Lévêque, P. Determination by neutron activation of the concentration of uranium-235 in some oxides of uran m, 2979.

Mayes, P. A., and Robson, W. Determination of ketone bodies [in blood and urine], 1607.

Maynes, A. D., and McBryde, W. A. E. Determination of traces of lead in igneous minerals, 802. Mays, J. M., Moore, H. R., and Schulman, R. G.

NMR spectrometer, 4402

Maza, M. del P. de la. See Pilar de la Maza, M. del. Mazee, W. M. Thermal analysis of normal alkanes, 552.

Mázor, L. See Erdey, L., 3360.

Mazur, A. A. See Rudney, N. A., 1107.

Mazzella, P. P. See Ma, T. S., 856.

Meakins, G. D., and Nelson, K. A. Copy-recorder for infra-red spectrometers, 2450. Mecham, D. K. See Kong, R. W., 2389.

Medek, J., and Valeška, F. [Colloquium Spectro-scopicum Internationale VI. Amsterdam, 1956.] Quantitative spectral analysis of small amounts of caesium and rubidium, 1435.

Medianu, B., Manu, V., Butaliu, O., and Korony, V. Application of electrographic analysis to the identification of the principal elements of steel alloys, 4117

Meditsch, J. de O. See Oliveira Meditsch, J. de.

Meditsch, J. O. See Oliveira Meditsch, J.

Medved, T. M. See Witnah, C. H., 1362.

Medvedeva, A. M. See Alimarin, I. P., 2577. Medvedeva, A. S. See Shvaiger, M. I., 3314.

Medvedeva, G. A. Determination of manganese in silicomanganese by surface testing, 3737.

Meerman, G. See Englis, D. T., 3904, 3905. Meggers, W. F. Spectrochemistry of actinium, 2926.

Mehler, A. H., Bloom, B., Ahrendt, M. E., and Stetton, D.-W., jun. Artefact in spectrophotometry caused by fluorescence, 1739.

Mehltretter, C. L. See Wise, C. S., 2292.

Mehrotra, R. C. See Grover, K. C., 4169, 4185, and Tandon, J. P., 1760, 2295, 3320.

Meilman, E. See Gallop, P. M., 1660.

Meinke, W. W. [Review of industrial applications of analysis, control and instrumentation.] Nucleonics, 2867.

See also Sunderman D. N., 1421.

Meinschein, W. G., and Kenny, G. S. Analyses of a chromatographic fraction of organic extracts of soils, 288.

See also Evans, E. D., 1570.

Meisel, T. See Erdey, L., 3360.

eites, S. Partition chromatography of organic acids in body fluids with silica gel. Application Meites, S. to normal human urine, 1611

Meixner, N. See Petuely, F., 1400.
Melamed, N. See Nangniot, P., 3497.
Melandri, M. See Gerosa, V., 3127.
Mel'chakova, N. V. See Peshkova, V. M., 1442.
Meleka, N. D. See Bardin, M. B., 3758.

Melichar, B. Azeotropic distillation as a method for the control of drugs. III. Determination of constituents of the "picoline" fraction, 1565.

Mellichamp, J. W., and Finnegan, J. J. Combination carbon - graphite electrode for d.c. arc analysis, 3213.

Mellon, M. G., and Boltz, D. F. [Review of industrial applications of analysis, control and instru-Light absorption spectrometry, mentation.] 2867.

See also Curry, R. P., 1203, Krochta, W. G., 364, and Patterson, G. D., jun., 1828.

Mellor, L. D. Paper electrophoresis of serum proteins, 660.

Melnick, F. A. See Peterson, J. I., 4119.

Mel'nikova, S. S. See Bagdasarov, K. N., 1228. Meloun, B., and Mikeš, O. Arrangement for the application of samples for paper chromatography, 1732.

See also Mikeš, O., 1748.

Melounová-Häuslerová, O. See Pavlas, P., 1983. Melpolder, F. W. See Sauer, R. W., 898.

Melton, C. E. Thoria - iridium as the source of ionising electrons in mass spectrometry, 4408.

Melville, R. S. Didymium filter for wavelength calibration in spectrophotometry, 1053. Menčik, Z. High-temperature viscometer, 4366.

Mendelowitz, A. Determination of sulphur in pyrites by the combustion method, 815.

Menefee, A., Alford, D. O., and Scott, C. B. Identification of alkylthio groups by infra-red spectroscopy, 1877.

Menges, W. See Schmitz, B., 1332.

Menis, O., Manning, D. L., and Ball, R. G. Determination of copper in solutions of uranyl sulphate by internal electrolysis, 372. Determination of tin in solutions of uranyl sulphate, 433.

Manning, D. L., and Goldstein, G. Determination

of free acid in solutions of uranyl sulphate, 498. Colour reaction between thorium and quercetin and separation scheme for interfering ions, 806.

See also Goldstein, G., 2976. Menke, K. H. Qualitative assessment of amino acids in the eluate after column-chromatographic separation, 650.

Menn, J. J., Erwin, W. R., and Gordon, H. T. Colour reaction of 2:6-dibromo-p-benzoquinone-4-chlorimine with thiophosphate insecticides on paper chromatograms, 2027.

Menzie, C. Determination of m-dinitrophenyl pesticides, 4352.

Menzies, A. C. [Colloquium Spectroscopicum Inter-nationale VI. Amsterdam, 1956.] Trends in Trends in automatic spectrochemical analysis, 1435. Mercier, D. See Dietrich, P., 3039.

Merikanto, B. See Kinnunen, J., 2528, 4146.

Merlin, E. See Hennart, C., 117, 2666, 2669, 3025,

3248, 4209.

Merrill, J. M. See Hill, W. H., 1138.

Merritt, L. L., jun., Martin, E. L., jun., and Bedi, R. D. Apparatus for automatic controlled potential electrolysis using an electronic coulometer, 3226.

Merz, W. Device for uniform application of liquid

streaks for paper chromatography, 1403.

Mesarić, S., and Branica, M. Spectrophotometric and polarographic determination of ruthenium in oxalic acid, 3352.

See also Branica, M., 3353.
 Meshcheryakov, A. M. Colorimetric determination of molybdenum, 1836.

Mesimer, W. J. See Miles, M. J., 2535.

Mesley, R. J. See Gaskin, J. G. N., 4307.

Mesnard, P., and Bertucat, M. Assay of official [Fr. P.] alcohols and phenols, 4287.

See also Babin, R., 676.

Messner, A. E. Reaction of iodine in methanol with decaborane and tetraborane, 3033.

Metcalfe, L. D., and Schmitz, A. A. Determination of higher aliphatic aldehydes in presence of ketones and fatty acids, 1255.

Metz, C.F. Analytical chemistry of plutonium, 1509.

Metzler, I. See Free, A. H., 1602.

Mével, N., and Lacruche, B. Volumetric determination of potassium after precipitation as tetra-

phenylboron, 3611. Meyer, A. E., and Per Lee-Motter, R. Determination of chloral hydrate and its transformation

products in body fluids and tissues, 183.

Meyer, A. S., jun. See Gilbert, T. W., jun., 1118, and Goldberg, G., 4370.

Meyer, E. See Meyer, F., 1266.

Meyer, F., and Meyer, E. Detection of eugenol,

isoeugenol and vanillin, 1266.

Meyer, H. Ninhydrin reaction and its analytical applications, 1630.

Meyer, R. C. See Hudgens, J. E., 1132.

Meyer, R. J. See Revin, J. L., 1377.

Meyer, S., and Koch, O. G. Volumetric determina-

tion of arsenic as quinoline molybdoarsenate, 2591. Volumetric determination of phosphorus and arsenic in plain steel by the differential method with quinoline and ammonium molybdates, 4129.

Meyniel, G. See Mounier, J., 658.

Mezentseva, N. M., Slutskin, R. L., and Fedorushin, V. N. Quantitative determination of ferrates by the potassium iodide oxidation reaction, 3745.

Mezina, N. M. See Korenman, I. M., 345. Michal, J., Pavlíková, E., and Zýka, J. Application of Mercupral to the photometric determination of small amounts of mercury in ores, 3281. Determination of silver in ores, 4004.

Michalec, C. Two-dimensional paper chromatography of higher fatty acids, 3530.
— Jirgl, V., and Podzimek, J. Semi-quantitative determination of cholesterol and cholesteryl esters by paper chromatography, 668.

Micheel, F. Paper-chromatographic separation of hydrophobic substances with cellulose ester paper, 2825.

Middleton, E. J. See McLaughlan, J. M., 3534. Middleton, J. E., and Griffiths, W. J. Colorimetric micro-method for estimating glucose in blood and c.s.f. using glucose oxidase, 3087.

Middleton, K. R. Colorimetric determination of

nitrate in water as Orange I, 1003.

Mierau, H .- J. A practical aid in paper chromatography, 311.

Mihail, G. See Pirtea, T. I., 2899, 3674.

Mihul, C., Ruscior, C., and Pop, V. [Colloquium Spectroscopicum Internationale VI. Amsterdam. 1956.] Fluorescence spectra of "burning" kerosines, 1435.

Mikeš, O., and Holeyšovský, V. Proteins. XLI. Detection of the sulphur-containing amino acids and their peptides by diagonal chromatography and diagonal electrophoresis, 1632.

Vanečěk, J., Meloun, B., Keil, B., Kostka, V., and Kára, J. Multi-compartment apparatus for preparative electrophoresis, 1748.

See also Meloun, B., 1732, and Wichterle, O., 1730.

Mikhailov, V. A. See Kuznetsov, V. I., 384.

Mikhailov, V. G. Simple fluorescent method of determining acrichine [mepacrine] and stilbamidine in urine, 185. Mikhailova, G. V., Turovtseva, Z. M., and Khalitov,

R. Sh. Determination of oxygen, hydrogen and nitrogen in molybdenum, tungsten and niobium.

— See also Turovtseva, Z. M., 1068.

Mikhailova, L. A., and Partashnikova, M. Z.

Determination of the boiling-points of organic liquids by means of a simple ebulliometer, 2844. Mikhal'chishin, G. T. See Babko, A. K., 101.

Mikheeva, N. B. See Spitsyn, V. I., 3997

Mikkelsen, L., Hopkins, R. L., and Yee, D. Y. Mass spectrometer-type analysis for olefins in gasoline, 2701.

Milaev, S. M. See Krasil'nikova, L. N., 4102.
Millbourn, M. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Emission spectroscopy in industrial analysis,

Milburn, A. H., and Truter, E. V. Determination of 7-oxocholesterol in wool wax, 1980.

 Miles, J. S. See Eichelberger, L., 3071.
 Miles, M. J., Mesimer, W. J., and Atkin, M. Volumetric determination of magnesium in titanium, 2535

Miles Laboratories, Inc. Test tablet [for the determination of sugar in fluids, e.g., urine], 1601. Diagnostic composition, 2350.

Miller, V. P. See Ryazanov, I. P., 66.
Miller, C. E. See Fibranz, L., 3807.
Miller, J. See Jacobson, N. W., 2836.
Miller, J. F. See Drushel, H. V., 902, 4212.
Miller, J. I. See Sass, S., 890.
Miller, J. W., and DeFord, D. D. Semi-micro

hydrogenation with electrically generated hydrogen. 2438.

Miller, O. N. Determination of bound vitamin B12, 193. See also Sandman, R. P., 3381.

Miller, R. I. Apparatus for the determination of total gas in fuel element samples, 2065.

Miller, R. R. See Johnston, R. S., 2904, Sawicki, E., 1911, 4197, and Williams, D. D., 3223. Milne, J. B., and Chatten, L. G. Analysis of promazine and chlorpromazine in pharmaceutical

preparations, 2381.

Milner, G. W. C. Developments in polarography,

2878. and Bacon, A. Photometric titration of bismuth

with EDTA and the determination of zirconium, 3298

and Barnett, G. A. Micro volumetric determination of uranium with application to bismuth-base alloy analysis, 1843.

and Edwards, J. W. Ion-exchange separations in the analysis of bismuth-base alloys. I. Binary alloys with uranium and thorium, 1819. Analysis of thorium - magnesium binary alloys,

Milner, G. W. C., and Nunn, J. H. Ion-exchange separation in the analysis of bismuth-base alloys. Ternary alloys containing uranium and thorium, 2596.

- and Slee, L. J. Developments in polarographic

analysis, 3254.

and Sneddon, G. W. Analysis of zirconium -

cerium binary alloys, 1485.

See also Barker, G. C., 2478, Barnett, G. A., 3282, Edwards, J. W., 422, and Ferrett, D. J.,

Milner, O. I. See Shipman, G. F., 2283. Milton, G. M., and Grummitt, W. E. Ion-exchange methods for the quantitative separation alkaline earths and their application to the determination of 90Sr in milk ash, 1129.

Milun, A. J. Colorimetric determination of primary amine in fatty amine acetates and fatty amines,

882.

See also Nelson, J. P., 1380.

Minářová, L. See Morávek, V., 3099. Minczewski, J., and Młodecka, J. Titration in non-aqueous medium. III. Determination of guanidine nitrate in a techical product, 134. Minenko, A. N. See Lur'e, Yu. Yu., 1492.

Mine Safety Appliances Co. Gas-detection method and apparatus, 329. Electrochemical detection of oxidising gases, 330. [Colorimetric reagent for the] detection of sulphur dioxide, 2606.

Miram, R., and Pfeifer, S. Quantitative determination of alkaloids from paper chromatograms by a photographic method, 1961.

Mireva, S. See Isakova, N., 3646. Mirkin, I. L., and Rikman, É. P. Micro-spectrographic analysis [of cast iron and steel], 2639.

Mirna, A. See Grau, R., 2390. Mirone, P. Spectrochemical d.c. arc analysis of

solutions adsorbed on paper, 746.

Miroshina, V. P. See Zabrodina, A. S., 1537.

Mirzoeva, T. R. See Bagbanly, I. L., 4030.

Miserez, A. Identification and determination of

strontium-90, especially in milk. [I], 2785; II, 4012.

Mishina, A. G. See Podchainova, V. N., 3613. Miskidzh'yan, S. P. Refractometric method for the

determination of nikethamide, 1350. Missan, S. R. See Ciaccio, L. L., 1277, and Pazdera,

H. J., 1327.

Mitchell, F. L. See Breuer, H., 212.

Mitchell, H. K., and Herzenberg, L. A. electrophoresis on sponge rubber, 331. Zone

Mitchell, J., jun. See Pickhardt, W. P., 4155. Mitchell, L. C. Separation and identification of four antioxidants, butylated hydroxyanisole, butylated hydroxytoluene, n-propyl gallate and nordihydroguaiaretic acid, by paper chromatography, 995. Separation and identification of acids by paper chromatography. III. The water-soluble inorganic phosphates, 2590. Paper-chromatographic procedure for the separation and identification of coumarin, dihydrocoumarin (melilotin) and 6-methylcoumarin, 2792. Separation and differentiation of mixtures of 2:3-4:5-bis(Δ2butenylene)tetrahydrofurfural [fly-repellent Butteryleties that the state of the state o acetonylbenzyl-4-hydroxycoumarin] by paper chromatography, 2810. Ascending paper chromatography, 2823. Gibberellic acid and its potassium salt. Study by paper chromatography,

Mitchell, L. E. See Lykken, L., 1721.

Mitchell, L. R. See Naftalin, L., 3424. Mitchell, R. W., and Eisner, M. Low-field nuclear magnetic resonance spectrometer, 2476.

Mitchell, T. J. See Spencer, R. P., 2310. Mitchell, T. J. See Irvine, L., 3393. Mitra, M. N. See Chakravarti, R. N., 768.

Mitra, S. N., and Roy, S. C. Detection of the presence of small amounts of turmeric in other spices,

Mitsui, T. See Takahashi, M., 1483.

Mitz, M. A., and Schlueter, R. J. Direct spectro-photometric measurement of the peptide bond; determination of acylase I, 3488.

Mixner, J. P. See Lennon, H. D., 611.

Miyahara, K. See Mizukami, S., 1539. Miyaji, K. See Jono, W., 1939. Miyamoto, Y. See Tanaka, S., 2721.

Miyata, H. See Emi, K., 1790. Miyazaki, K. See Oi, N., 3053, 3133. Miyoshi, S. See Awaya, H., 1795.

Mizoguchi, S. Photometric determination of molybdenum in ferromolybdenum by the stannous chloride reduction method, 1838.

Mizuike, A. Determination of low concentrations of deuterium in water with a mass spectrometer. [I.] Exchange equilibrium method, 1777; [II.]

Zinc decomposition method, 1777.

Mizukami, S., and Hirai, E. Titration in non-aqueous solutions. I. Determination of 5acetamidomethyl-4-amino-2-methylpyrimidine in

glacial acetic acid, 1566.

- Ieki, T., and Kondo, Hiroko. Determination of carbon and hydrogen. V. Absorption of nitrogen oxide. (2). Trishydroxylamine phosphate, 3009; VI. Simultaneous determination of carbon, hydrogen and sulphur, 3009.

Ieki, T., and Morita, N. Determination of carbon and hydrogen. IV. Absorption of nitrogen Absorption of nitrogen (1). Ammonium sulphamate, 3009. oxide.

and Miyahara, K. Observations on nitrogen determinations. II. Correction of the nitrometer reading and modification of nitrometer, 1539.

Miyahara, K., and Nakai, H. Nitrogen determination. I. Examination of samples giving erroneous results, 1539.

Mladentseva, S. I. See Moiseeva, K. A., 2582.

Mlejnek, O. Determination of free maleic anhydride

in polyester resins, 2302.

Młodecka, J., and Hojnacka, A. Detection of small amounts of amines, 132.

See also Minczewski, J., 134.

Mňouček, K. See Buděšínský, B., 2679, and Knobloch, E., 2294. Moak, W. D. Cooling liquid samples for X-ray

fluorescence analysis, 2058.

and Pojasek, W. J. Determination of uranium in UO₂ - Al₂O₃ fuel elements by X-ray emission spectrography, 3722.

Mocquot, G. See Bejambes, M., 3517. Modreanu, F., Fisel, S., and Carpov, A. Identification and determination of some alkali metals by paper chromatography, 1114. Separation of barium, strontium, calcium and magnesium by paper chromatography, 2908.

— See also Fisel, S., 1273.

Mohan, P. J. See Rao, G. G., 516.

Mohan, P. V., and Schreiber, T. P. Spectrochemical analysis of a nickel-base high-temperature alloy,

Mohler, E. F., jun., and Jacob, L. N. Determination of phenolic-type compounds in water and industrial waste waters. Comparison of analytical methods, 1007.

Mohler, F. L. See Bradt, P., 3794.

Möhler, K., and Antonacopoulos, N. Chemical determination of connective tissue in meat and its preparations, 3152.

Mohr. E. Determination of antimony in copper

allovs, 4069.

Mohrhauer, P. See Lange, W., 3804. Mohun, A. F., and Cook, I. J. Y. Measuring serum levels of the glutamic - oxalacetic and glutamic pyruvic transaminases in routine laboratories,

Moinat, P. G., and Tuller, E. F. Voltage and temperature relationships in paper electrophoresis of serum proteins, 1319.

Moiseeva, G. P. See Zhdanov, A. K., 3752. Moiseeva, K. A., Sukhenko, K. A., Mladentseva, S. I., and **Aksenova**, A. V. Spectrographic analysis of titanium-base alloys, 2582.

Moitra, A. K., Banerjee, S. P., and Chatterjee, N. N. Estimation of phosphorus in coal and coke, 2287. Mojzis, J. Mechanical drop release in polarography,

1075.

Mokrasch, L. C. See Grisolia, S., 3846.

Moldavskii, B. L., and Ivanova, I. I. Reduction of nitrocyclohexane by hydriodic acid for its quantitative determination, 577.

Molen, H. J. van der. See Cosijn, A. H. M., 4065. Molia, H. See Levy, L. W., 1395. Moline, S. W. See Peppard, D. F., 1474. Molines, J. See Helme, J. P., 1299. Moller, C. J. See Zijlstra, W. G., 627. Mollin, J. See Kuraš, M., 3756.

Molnár. L. Quantitative oscillographic polarography of certain alkaloids, 1664.

and Molnárová, K. Oscillopolarographic determination of quinine alkaloids. I, 2363.

Szekeres, L., and Zergényi-Balásfalvy, M. Arsenometric determination of formaldehyde, formic acid, bromate and iron11, 3021.

— See also Szekeres, L., 2627. Molnár, S. F. See Füsti Molnár, S. Molnárová, K. See Molnár, L., 2363. Mondovi, B. See Cavallini, D., 1610.

Money, R. W., et al. Analytical data on common fruits, 3523.

Monfeugu, S. External cathode counters for the determination of tritium, 3603.

Monk, R. G. Lanthanum fluoride co-precipitation determination of plutonium. Efficiency of precipitation of the lanthanum carrier as fluoride, 1511.

Monnet, R., Sabon, F., Viala, A., and Grignon, H. Analysis of solutions of medicinal calcium salts

by chromatography on paper, 4304.

Monnier, D., Rüedi, W. F., and Fasel, M. Spectrophotometric micro-determination of alcohol in blood, 938.

See also Wenger, P. E., 1317.

Montequi, R., Doadrio, A., and Serrano, C. Mer-curimetric determination of alkali-metal tetraphenylborides, 1116.

Montesi, G. See Cerletti, P., 4254. Monzini, A., and Botalla, G. Polarographic determination of oxygen in fruit juices, 2788.

Moore, F. L. Long-chain amines. V Versatile acid extractants, 1261. Liquid - liquid extraction of uranium and plutonium from hydrochloric acid solution with tri(isooctyl)amine, 3332. Radiochemical determination of ionium in uranium fluorination ash, 4100.

- and Hudgens, J. E., jun. Separation and determination of plutonium by liquid - liquid extraction, 1510.

Moore, F. L., and Reynolds, S. A. Determination of protactinium-233, 1178

Moore, H. R. See Mays, J. M., 4402. Moore, R. J. See Gordon, R. J., 4213.

Moore, S., Spackman, D. H., and Stein, W. H. Chromatography of amino acids on sulphonated polystyrene resins, 4251.

— See also Spackman, D. H., 4359.

Moore, T. B. See Cameron, W. M., 2004.

Morachevskii, Yu. V., and Barbanel', D. G. Distillation of antimony halides and the colorimetric determination of antimony with methyl violet, 3686. Colorimetric determination of small quantities of antimony in copper-based alloys,

and Bashun, Z. S. Separation of zinc and cobalt,

3279.

and Gordeeva, M. N. Separation of molybdenum from iron, aluminium and calcium by means of anionites, 1185. Separation of uranium and vanadium by means of anionite resins, 1195.

- and Pinchuk, N. Kh. Phase analysis of iron ores. II. Selective solution of magnetite in the

presence of chalcopyrite, 520.

and **Tserkovnitskaya**, **I. A.** Separation of quadrivalent uranium by the phosphate method Separation of in the presence of niobium and tantalum, 1196. Deposition of uranium by the method of internal electrolysis in the presence of vanadium, chromium, nickel and cobalt, 1197.

Zvereva, M. N., and Pchelina, V. S. Removal of zinc from nickel by anionites, 532.

Morávek, V., Kadaňka, Z., and Minářová, L. Oscillographic polarography of steroids, 3099. Morch, J. Impurity test for cephaëline in emetine

hydrochloride, Danish Pharmacopoeia (1948 Ed.),

Morcillo, J., and Vinos, J. A. Determination of cell thickness by infra-red absorption, 1411. Analysis of total aromatic content [of hydrocarbon mixtures] by infra-red spectroscopy, 2264.

Moreau, C. See Dupuy, P., 1035. Moreno Calvo, J. Paper chromatography of permitted and prohibited colours in foodstuffs, 3166. and Santos Ruiz, A. Identification of certain amino acids and derivatives by paper chromatography with ethyl acetate - pyridine - water, 3855.

Moreno Martin, F., and Hernández-Gutiérrez, F. Determination of ascorbic acid, 271.

Moreton-Smith, M. See Clayton, R. F., 2194, and Hardwick, W. H., 2194. Morgan, D. J. Micro-determination of secondary

aliphatic amines, 3385.

Morgan, K. J. See Barltrop, J. A., 563.

Morgan, T. D. See Echo, M. W., 1424.

Morgner, J. Determination of iodine value with bromine vapour, 2407.

Morin, I. See Nowaczynski, W., 1324. Morinaga, K. See Dono, T., 3736. Morisaka, K. See Enoki, T., 1749, 2982.

Morita, N. See Mizukami, S., 3009.
Moritz, H. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Spectrochemical analysis of grey cast-iron, 1435.

Moriyama, S. See Kinoshita, Y., 692. Moroshkina, T. M., Prokof'ev, V. K., and Smirnova, M. N. Spectrochemical determination of small amounts of uranium in natural samples, 2616.

Morozova, A. See Kolusheva, A., 4206. Morozova, N. G. Spectrographic determination of uranium in ores and refining products, 493.

Morr, C. V., Harper, W. J., and Gould, I. A. Organic acids in raw and heated skim milk, 1693. Morrell, F. A. See Holmes, J. C., 336.

Morris, C. J. O. R. Electrophoretic separation methods for biologically important substances, 1412.

Morris, J. B. See Adams, R. N., 2856. Morris, S. K. See Main, R. K., 1041.
Morrison, A. See Wittner, R. F., 197.
Morrison, G. H., and Cosgrove, J. F. Determination

of uranium-235 by gamma scintillation spectrometry, 1506.

and Freiser, H. Review of industrial applications of analysis, control and instrumentation.]

Extraction, 2867.

Morrison, T. J., jun. See Centanni, F. A., 1187.

Moskaleva, L. P. See Surkov, Yu. A., 1420.

Moss, D. G. Estimation of BZ55 [carbutamide] and sulphonamides in blood-sugar filtrates, 3084.

Moss, D. W. See Lubran, M., 662. Mostert, J. See Kappelmeier, C. P. A., 921.

Motet-Grigoras, D. See Macovschi, E., 2851. Motojima, K. Spectrophotometric determination

of vanadium with oxine, 463.

and Hashitani, H. Simultaneous spectrophotometric determination of micro amounts of iron and aluminium. Extraction from a large volume of sample solution, 2632. Photometric micro-determination of iron in chromium, manganese and nickel by the oxinate extraction method, 3742.

See also Awaya, H., 1795.

Motorkina, R. K. See Shakhova, Z. F., 429, 1442,

Mott, R. A., and Moulson, I. Determination of naphthalene in town gas by the picrate method. The dissociation of naphthalene picrate, 2289; II. The indene correction, 2289; III. Miscellaneous observations, 2289.

and Wilkinson, H. C. Determination of sulphur in coal and coke, 1290. Determination of nitrogen in coke by the semi-micro Kjeldahl method, 3803.

Mottlau, A. Y. Micro vapour pressure method, 313.

Moudy, L. A. See Silverman, L., 1227, 1526.

Moulson, I. Determination of naphthalene and

benzole in coke-oven gas, 1575.

— See also Mott, R. A., 2289. Mounfield, D. See Parsons, C. A., & Co. Ltd., 1023, 1025, 2031, and Parsons, Sir Howard Grubb,

& Co. Ltd., 1024, 2831.

Mounib, M. S., and Evans, J. V. Comparison between methods used for the preparation of tissues for determinations of potassium and sodium, 179.

Mounier, J., Blanquet, P., and Meyniel, G. Marking iodo amino acids with ¹³¹I, 658.

Moureau, H., Chovin, P., Truffert, L., and Lebbe, J. Quantitative infra-red spectrography. II. Determination of carbon monoxide content of so-called standard gases, 2150.

— See also Debal, E., 500.

Moussebois, G., and Duyckaerts, G. Gas radiochromatography, 4365.

Mousseron, M., Jullien, J., and Peyron, A. Quantitative determination of 1:2-epoxides, 3789.

Mowery, D. F., jun. Ferricyanide and a periodate chromatographic spray for reducing and non-reducing sugars, 865. Separation and quantitative determination of methyl mannosides in an automatically controlled cellulose partition column, 869.

Moya, F. See Szerl, J. C., 3437. Moye, A. J. See Fritz, J. S., 1260.

Moyer, J. D., and Isbell, H. S. Structural analysis of clinical dextrans by periodate oxidation and isotope dilution techniques, 1685. Preparation and analysis of carbon-14-labelled cyanide, 1801. Mozgovaya, T. A. See Shvangiradzö, R. R., 2930. Mozharovskaya, A. V. See Bogatskii, V. D., 137.

Mozheiko, L. N., and Yaunzems, V. R. Semimicro determination of cellulose and pentosans in wood, 720.

Mráz, L., Simon, V., and Zýka, J. Titrations with quinol and analogous reducing agents. VI. Utilisation of the reaction between ceriumIV and manganesell salts, 2559.

Muel, B., Hubert-Habart, M., and Buu-Hoï, N. P. 3:4-9:10-Dibenzopyrene: fluorescence spectrum and chromatographic separation of 3:4-benzo-

Mueller, H. F., Larson, T. E., and Lennarz, W. J. Chromatographic identification and determination of organic acids in water, 2012.

Mugnier, P. See Degeorges, E., 1722.

Muhs, M. A., and Weiss, F. T. Determination of pyrrolic nitrogen in petroleum distillates, 2281.

Mukaewaki, K. Routine analysis of iron-pickling liquor. III. Rapid determination of ferric nitrate in a hydrofluoric - nitric acid pickling liquor and observations on the state of the iron. 1860; IV. Rapid determination of nitrate and nitrite in hydrofluoric - nitric acid pickling liquor, 3308.

Mukai, K., and Goto, K. Determination of sulphate by dissolution of barium sulphate with EDTA,

2968.

Mukai, M. See Thomas, J. F., 1705.

Mukerjee, H. G. Electro-migration on paper in the separation of ions. IV, 1108; V, 1108; VI. [Ruthenium], 1529; VII. [Separation of gold], 1785; VIII, 3261.

Mukherjee, A. K. See Majumdar, A. K., 1821. Mukherjee, S. Estimation of ionisable ash in

molasses by ion exchange, 1982.
- See also Chatterjee, A. K., 3512.

Mukherji, A. K., and Dey, A. K. Sodium alizarin-3-sulphonate [alizarin red S] as a colorimetric reagent for the micro-determination of uranium, 3720. Determination of uranium using disodium 1 : 8-dihydroxynaphthalene-3 : 6-disulphonate (chromotropic salt) as a colorimetric reagent, 4093.

Mukimov, A. M. See Shakhtakhtinskii, G. B., 2574, 4045.

Mulder, F. J., Roborgh, J. R., Man, T. J. de, Keuning, K. J., and Hanewald, K. H. Analysis of fat-soluble vitamins. II. Routine determination of vitamin D. Correlation with the biological determination, 998.

Mulder, G. J., and Aarts, E. M. Test for fluoride in calcium phosphate, 838.

Mulder, J. L. See Maurice, M. J., 1554.

Mulé, S. J. See DeVenuto, F., 3868.

Mullen, J. D. Determination of the gamma-isomer content of hexachlorocyclohexane [BHC]

dip-washes, 4346.

Muller, C. E. See Gordon, R. J., 4213.

Müller, G. Determination and characterisation of biologically active pyrroles, 1274.

Müller, H. See Schneider, F., 1358.

Müller, K. See Eisenkolb, F., 3285, and Täufel, K., 989, 1361.

Müller, R., Ernst, G., and Schoch, H. Identification of insecticide residues on plant material (fruit and vegetables) and isolation of pesticides by means of paper chromatography, 1014.

Müller, R. H. Review of industrial applications of analysis, control and instrumentation.] Instrumentation, 2867.

Mullin, H. R., Yuster, H. G., and Graff, R. L. Spectrochemical determination of uranium-235, 3325.

Mullin, J. B., and Riley, J. P. Occurrence of cadmium in sea water and in marine organisms and sediments, 1388.

Munday, J. S. See Sharpless, N. E., 1236.
Munemori, M. See Musha, S., 3786.
Munk, V., and Matoušková, J. Determination of cyanides in biological material, 2314.

Murai, K. See Takei, F., 3022.

Murakami, T. Colorimetric determination of iron in copper and copper alloys with dimethylglyoxime, 517.

Muraki, Ichiro, Kondo, Hiroshi, and Tanabe, T. Determination of sulphate ions in manganese dioxide produced by electrolysis, 2986.

Muraki, Isao, and Hiiro, K. Spectrophotometric determination of a trace amount of boron with curcumin. I. Conditions of the determination, 402; II. Decomposition of graphite and distillation of boron, 402.

Muramoto, Y. See Suzuki, S., 3043. Murase, T. See Kato, K., 1163.

Murata, A. Quantitative chromatography on treated paper. VIII. Chromatography arsenate, arsenite, selenate, selenite, tellurate and tellurite ions, 456.

and Yamauchi. F. Fluorimetric determination of boron with morin, 4020.

Murata, T. See Shinagawa, M., 434. Murata, Y., and Kasaoka, S. Determination of ferrous and ferric oxide in an iron catalyst, 3743.

Murayama, T. See Tanaka, N., 3232. Murina, G. A., Iskanderova, A. D., and Sprintssov, V. D. Comparative characteristics of analytical determinations of potassium as applied to sili-

cates, 29. Murphy, C. B. [Review of industrial applications of analysis, control and instrumentation.] Differential thermal analysis, 2867.

Murphy, J. E., and Schwemer, W. C. Infra-red analysis of emulsion polishes, 1938.

Murphy, R. S. Uranium isotopic analysis with a prism-echelle spectrograph, 3328. Murray, E. C. See Radell, J., 4161.

Murray, J. F., and Shillingford, J. P. Comparison of direct and extraction methods for the determination of T-1824 (azovan blue) in plasma and serum, 3829.

Murray, K. L. H. See Harvey, C. O., 2561. Murthi, R. V. V. S. See Rao, K. B., 1475.

Murthy, G. K., and Whitney, R. McL. Babad and Shtrikman's colorimetric determination of citrate in milk, 3154.

Murthy, L., and Herreid, E. O. Centrifugal tube for extracting butyl alcohol in the phosphatase test, 3897. Determination of the total nitrogen in stored milk by nesslerisation and by the macro-Kjeldahl methods, 3898.

Murthy, T. K. S. See Desai, M. W., 2620.

Murthy, V. M. R., Burroughs, R. N., Reid, B. L., and Couch, J. R. Liberation and determination

of riboflavine in natural feeding-stuffs, 3914. Musha, S., Munemori, M., and Ogawa, K. Turbidi-metric and spectrophotometric titration of ethylene diaminetetra-acetic acid with lead nitrate, with chromate ions as indicator, 3786.

and Niwa. I. Determination of copper by means of short-circuit limited-potential coulometry, 2891.

- and Ogawa, K. Spectrophotometric determination of titanium with hydrogen peroxide and ethylenediaminetetra-acetic acid, 2940.

Musil, A., and Haas, W. Determination of vanadium with N-benzoyl-N'-phenylhydrazine, 2179. - and Pietsch, R. Metal precipitation with tolylarsonic acids, 3988.

Musil, J. Paper electrophoresis, 2092.

Musina, T. K., and Songina, O. A. Amperometric determination of bismuth with pyrogallol, 3691. Study of the behaviour of certain metals as microelectrodes in amperometric titration, 4401.

Mustafin, I. S., and Kul'berg, L. M. Theory of action

of organic reagents. Effect of increase of mole-

cular weight, 340.

Mutaguchi, M., and Tasuda, K. Spark-spectrographic determination of light alloy metals with spectrophotometer. I. Analysis of aluminium alloys by high-voltage spark, 1797.

Muthukrishnan, V. See Kar, B. C., 47. Muto, G., and Mamiya, M. Analysis of rare-earth elements. I. Micro-analysis of praseodymium. neodymium and samarium in lanthanum oxalate by spectrophotometry, 3657.

Muto. S. Analytical studies of boron. VI. Determination of boron using ion-exchange resin, 2913. Mutschin, A., and Maennchen, K. Infra-red absorption spectra of various phosphorus compounds.

11. Alkali pyrophosphates, 3682.

Muzÿchenko, L. A. See Portnov, M. A., 578.

Myers, T. C. See Schwartz, M., 4271.

Mykolajewycz, R. Quantitative evaluation of spots on paper chromatograms. Light-flux measurement through negative printed spots, 1039.

Myshlyaeva, L. V. Quantitative determination of

chlorine in organosilicon compounds, 4194.

Nabivanets, B. I. Chromatographic separation of chlorides, bromides and iodides, 508

Nachlas, M. M., and Blackburn, R. Colorimetric determination of urinary lipase, 3872

Nadezhina, L. S., and Razumova, V. P. graphic] determination of small amounts of lead in pure metals and ferrous alloys, 2938.

Naftalin, L., and Mitchell, L. R. Urine preservative,

Nagahama, S. See Kobayashi, A., 1269.

Nagai, Hideo. Precipitation paper-chromatography of inorganic cations with 8-hydroxyquinoline. VI. Quantitative determination of the ferric ion, 2210.

Nagai, Hiroshi. See Ikeda, Sasiti, 3621.

Nagumo, S. See Imai, T., 1528, 4085.

Nagy, M. See Szekeres, L., 2627.

Nagy, S. B. Dielectric-constant measurements in organic analysis, 4153.

Nagy, Z., and Almassy, G. Apparatus for the determination of uranium with ether extraction,

and Pólyik, E. N. Spectrographic determination of trace metals in natural waters, 2803.

Nair, C. P. N. See Pillay, P. P., 3946. Nair, D. See Lach, J. L., 3129.

Naitô, H., and Sugawara, K. Spectrophotometric determination of a minute amount of vanadium in natural waters, 3185.

Nakagawa, G. Polarographic analysis with complexforming reagents. I. Determination of zinc in the presence of nickel or cobalt with nitrilotriacetic acid, 394; II. Determination of zinc in a supporting electrolyte containing EDTA and sodium hydroxide, 2134.

See also Dono, T., 3736.

Nakagawa, T., and Nakata, I. Qualitative analysis of non-ionic surfactants on filter-paper, 3051.

Nakai, H. See Mizukami, S., 1539. Nakai, S. See Okada, T., 541.

Nakamura, N. See Sakaue, T., 593. Nakamura, R. See Sakamaki, I., 2684.

Nakamura, Yoshi. See Asahina, H., 2364. Nakamura, Yoshitaka, and Fukami, K. Tracer study

on the loss of silver in cupelling with silver-110. 2895.

Nakanishi, T. See Suzuki, Yukio, 1499.

Nakano, K., and Shibata, S. titrimeter, 4393. High-frequency

Shibata, S., and Satsuka, A. High-frequency

titrimeter with a magnetic core, 2859.

Tadano, H., and Ohira, Y. High-frequency titrimeter useful for a wide range of concentration,

See also Kikuchi, T., 2512.

Nakata, I. See Nakagawa, T., 3051.
Nakatsuchi, A. See Yamaguchi, H., 4301.
Nakayama, T. See Ohashi, K., 2573.
Nakazawa, Y. See Akiya, S., 3142.
Nanayati, D. D., Dasgupta, S., and Aggarwal, J. S.

Estimation of trans-isooleic acids in hydrogenated fats, 3531.

Nanda, R. K., and Prasad, B. Iodimetric method for the estimation of zinc, 1463.

Nangniot, P., and Melamed, N. Polarographic determination of nicotine in cultivated tobaccos,

Narain, K., and Lal, J. B. Formulae for estimation fo alcoholic constituents in synthetic mixtures and essential oils. V. System consisting of two primary alcohols, an ester, a ketone and a hydrocarbon, 2708.

Narayanan, K. M. See Kapur, N. S., 1907. Narayanarao, D. See Venkateswarlu, P., 3539. Narinskii, G. B. See Kazarnovskaya, L. I., 2602.

Narita, K. Photometric determination of silicon in

iron and steel. II. Use of molybdenum blue, 2994.

Nath, N. See Kar, K. R., 2965.

Nath, R. See Giri, K. V., 1318.

National Bureau of Standards. Accurate determination of sugar colour, 3148.

National Research Council. Cell holders for spectrophotometers, 316.

Natsume, H. See Kimura, K., 2922. Naumova, A. M. See Reishakrit, L. S., 3639. Nausester, H. K. Spectrochemical analysis of white

metals by the point-to-plane spark technique,

Naves, Y .- R. Nature of the fixed phase and of the carrier in gas - liquid partition chromatography of essential oils and aromatics, 4217.

Navrátil, F. See Matrka, M., 162, 2296. Nayar, M. K., Rao, G. R., and Soundaravalli, K. S. V. Determination of procaine in procaine penicillin, 4280.

Nazarenko, I. I. See Peshkova, V. M., 1442.
Nazarenko, V. A. Analysis of pure metals, 2506.

— Flyantikova, G. V., and Lebedeva, N. V. Analysis of pure metals. Determination of arsenic as impurity, 2954.

Lebedeva, N. V., and Ravitskaya, R. V. Determination of germanium in ores, coals and industrial wastes, 3292.

and Shustova, M. B. Analysis of pure metals. Determination of tantalum impurities in zirconium and niobium, 2600.

Nazarov, I. M. Separate determination of natural radioactive elements by the use of laboratory radiometric methods, 4101.

Kazitsyna, L. A., and Zaretskaya, I. I. Absorption spectra of the 2:4-dinitrophenylhydrazones of carbonyl compounds, 128.

Nazarova, G. E. See Tsintsevich, E. P., 1147.

Nebbia, L., and Guerrieri, F. Chromatographic analysis of mixtures of formaldehyde, acetaldehyde and acraldehyde, 1254. Quantitative determination of hexamethyleneimine in hexa-

methylenediamine, 2250.

- and Pagani, B. Determination of chlorine in liquid bromine, 2200. Analysis of mixtures of ethylenediamine and polyethyleneamines, 3027.

Nechiporenko, G. N. Volumetric determination of

sulphates in natural waters, 2008.

Nedler, V. V. Spectrographic determination of small amounts of niobium in ores and refining

products, 2599.

Nedoma, J. See Dereń, J., 41.

Nedorost, M. Polarographic vessel for continuous gas analysis, 1074.

See also Janák, J., 96.

Neeb, R. Analytical chemistry of platinum metals.
VII. Microchemical detection of iridium, palladium and platinum by means of phosphonium and arsonium salts, 3350.

— See also Geilmann, W., 540.

Neely, L. See Slaunwhite, W. R., jun., 1322.

Neerman, J. C. See Parsons, J. L., 4032.

Negoro, H., and Seno, S. Analysis of surface-active agents. III. Paper-electrophoretic separation,

Neher, R. Chromatography of sterols, steroids and

related compounds. [I, II], 4261.

Neinke, W. W., and Maddock, R. S. activation cross-section graphs, 19.

Nekrasova, G. A. See Pshenitsyn, N. K., 536. Nel, W. See Harley, J., 3949.

Nelson, F. M. See Eggertsen, F. T., 4210. Nelson, A. I. See Vetter, J. L., 3514. Nelson, B. N. Statistical evaluation of spectrographic methods, 1752.

Nelson, J. P., and Milun, A. J. Determination of phosphine in air, 1380
Nelson, K. A. See Meakins, G. D., 2450.
Nelson, K. H., Grimes, M. D., and Heinrich, B. J.

Determination of normal paraffins and normal olefins in petroleum distillates, 584.

Nelson, L. C. See Hudgens, J. E., 1132. Nelson, R. A., and Pro, M. J. Determination of added distinctive cations in whisky. X. Spectrophotometric determination of zinc, 2790

Pro, M. J., and Mathers, A. P. Colorimetric determination of the obscuration in proof of straight whiskies, 3903.

See also Pro, M. J., 990, 2765.

Němcová, D. See Knobloch, E., 1010. Němeth, A., and Cîrlogan, C. Thermomagnetic and infra-red method for gas analysis in the manufacture of acetylene from methane, 120.

Nemirovskaya, E. M. See Shchipakina, N. K., 360. Nesbitt, J. M. See Reinart, A., 3156. Nesmeyanova, K. A. Determination of nickel, boron and fluorine in nickel hydroxyfluoroborate electrolytes, 4141.

Nessim, N. E. See Puffeles, M., 286. Nettesheim, G. Micro-determination of density of liquid hydrocarbons by rising-drop method, 121. Neuberger, A., and Schöffmann, E. Determination of small quantities of aluminium in steel. II,

Neuhaus, O. W., and Letzring, M. Determination of hexosamines in conjunction with electrophoresis on starch, 191.

Neumann, J., Aunický, Z., and Štěpánková, V. Quantitative determination of nitroacetophenone,

Neuninger, H. See Derkosch, J., 2121.

Neuss, J. D. See Schulz, E. P., 1323.

Neustadt, M. H. Testing of oilseeds for oil quantity and iodine number of oil, 2403.

Neuwirth, O. See Schwab, G. M., 1026. Newark, H. L., and Leff, M. Test for purity of cyanocobalamin injection, U.S.P., 3146. Newbold, B. T. See Gagnon, P. E., 3810.

Newkirk, A. E. Accessories for Chevenard thermobalance, 2063.

- and Aliferis, I. Drying and decomposition of sodium carbonate, 3246.

Newnham, I. E. Separation of zirconium and hafnium by differential reduction of their tetrachlorides, 4049.

Newstead, E. G., and Gulbierz, J. E. Determination of boron in titanium alloys by an ion-exchange method, 1144.

Ney, E. See Weiner, R., 447. Ng, Y. C. See Freeman, N. K., 646.

Nicholls, G. D. See Rushton, B. J., 1156. Nichols, A. V. See Freeman, N. K., 646. Nicholson, D. L. See Bradford, B. W., 2478.

Nickless, G. See Pollard, F. H., 2209. Niederl, J. B., and Sozzi, J. A. Microchemical tests for carbon and nitrogen, 1241.

Nielsen, A. T. Assay of oxytocin in preparations of vasopressin, 3504.

Nielsen, H. Quantitative micro-determination of

proteins and peptides, 3464.

Nielsen, H. M. Determination of microgram quantities of fluoride [in biological extracts], 3430. Nielson, P. W. See Galloway, L. S., 1650.

Niemann, A. Determination of glutamine and

asparagine in plant sap, 4333.

Niesel, W. See Lübbers, D., 1056.

Nietzel, O. A., Wessling, B. W., and DeSesa, M. A. Ion-exchange spectrophotometric determination

of thorium, 1164. Nievas, J. B. See Bernal Nievas, J. Nigam, V. N. See Mathur, G. M., 2

Nigam, V. N. See Mathur, G. M., 2710. Nightingale, E. R., jun. Poised oxidation - reduction Quantitative evaluation of redox systems. poising capacity and its relation to the feasibility of redox titrations, 2085.

— See also Kolthoff, I. M., 2466. Niinivaara, F. P. See Pohja, M. S., 4309. Niki, E. See Takahashi, Takeo, 4386.

Nikitina, O. N. Calculation of imposed line-band spectra in the analysis of silica, 427.

spectra in the analysis of sinca, 427.

Nikolaeva, A. P. See Soloveichik, L. S., 1901.

Nikolaeva, Z. V. See Lur'e, Yu. Yu., 62.

Nikol'skaya, L. E. See Grinberg, A. A., 488.

Nikonova, M. P. See Poluéktov, N. S., 356, 2906.

Nilsson, K. See Kirsten, W. J., 2251.

Nilus, E. L. See Rÿss, I. G., 404.

Nilos Martinar, E. See Genera, Feoder, L. 136.

Niño Martinez, E. See García Escolar, L., 136. Nir-Grosfeld, I., and Weissenberg, E. Colorimetric estimation of atropine and related alkaloids in pharmaceutical preparations, 3106.

Nishida, H. Photometric determination of tungsten in ores by the stannous chloride and potassium thiocyanate method, 486. Effect of sulphuric acid on the determination of a small amount of germanium, 2566.

Nishikawa, Y. See Ishibashi, Masayoshi, Nishimoto, K. See Yamaguchi, K., 3110. See Ishibashi, Masayoshi, 2140, 2554.

Nishimura, M. See Uzumasa, Y., 1853. Nishino, Y., and Kominami, T. Determination of methanol and methyl acetate in vinyl acetate by

infra-red spectroscopy, 1884. Nishiya, T. See Kamada, H., 523. Nishiyama, K. See Suzuki, Yukio, 1499. Niwa, I. See Musha, S., 2891.

Nixon, E. R. See Linton, H. R., 3391.

Niyogy, S. C. See Das, S., 4246. Nobel, D. See Nobel, S., 3822.

Nobel, S., and Nobel, D. Determination of mercury in urine, 3822.

Nocke, W. See Brezer, H., 212. Noda, L., and Kuby, S. A. Adenosine triphosphate adenosine monophosphate transphosphorylase (myokinase). I. Isolation of the crystalline enzyme from rabbit skeletal muscle. [Determination of enzyme activity], 215.

Noda, M. See Inoue, Y., 3167.

Nogare, S. D., and Bennett, C. E. Programmedtemperature gas chromatography, 4363.

and Safranski, L. W. High-temperature gaschromatography apparatus, 3565. See also Bennett, C. E., 3564.

Noguchi, T. See Shinoda, K., 1865. Noll, C. R., jun. See Velasco, J., 2783. Noller, G. W. See Penther, C. J., 3575. Nöller, H. G., and Stelgens, P.

High-voltage electrophoretic separation of serotonin (5-hydroxytryptamine) from other xanthhydrol-positive substances, 1622.

Nomura, K. Determination of 1-naphthylacetic acid by ultra-violet spectrophotometry, 4343.

— See also Yamamoto, S., 4347.

Nonaka, M. See Pippen, E. L., 873.

Nonowa, D. C. Photometric micro-determination of calcium with picrolonic acid and methylene blue, 3276.

Norcia, L. N. Influence of autoxidation on the chemical assay of cholesterol, 3861,

Nordén, A. See Bladh, E., 3827.

Nordmann, J. See Nordmann, R., 3089. Nordmann, R., Marty, A., Tholozan, A., and Nordmann, J. Identification of the organic acids in

human plasma by paper chromatography, 3089. Norheim, A. G. Analytical distillation in miniature columns. Design and testing of Teflon spinning band, 1033.

Norishima, K. See Oda, N., 2941, 2942, 2943.

Norman, N., Beck, J. C., and Browne, J. S. L. Separation of bone sodium, potassium and calcium with cation-exchange resin, 604.

Norris, M. V., Easter, E. W., Fuller, L. T., and Kuchar, E. J. Colorimetric estimation of malathion residues in animal products, 3895.

Norwick, B., and Bierig, E. Chromatographic method for identification of amino aldehyde finishes on textiles, 1579.

Norwitz, G. See Codell, M., 805, 2945. Noskov, A. S. See Turovtseva, Z. M., 1068. Notton, B. M. See Bartley, W., 1593.

Novachok, A. I. See Tokarev, I. I., 4037.

Novák, J. See Doležal, J., 2647, 3270, and Janák, J., 2673.

Novák, J. V. A. See Gottfried, J., 807.

Novák. M. Fluorescence of uranyl salts in solution, 1189

Novak, N. See Kolšek, J., 2693.

Novák, V. See Tockstein, A., 3635.

Novikova, E. N., and Petrova, L. N. Determination of acetic anhydride, 1259. See also Petrova, L. N., 556.

Novotný, L. Errors in colorimetry, 3979.

Nowaczynski, W., Koiw, E., Genest, J., Tellier, R., Morin, I., Laflamme, A., and Robinson, P. Chemical determination of urinary aldosterone, 1324.

Nozaki, T. Ultra-violet spectrophotometric determination of copper [in sodium carbonate and in hydrochloric acid solution], 2119.

Nunez, L. J., Armstrong, W. H., and Cogswell, H. W. Analysis of hydrocarbon blends by gas - liquid partition chromatography, 150.

Nunn, J. H. See Milner, G. W. C., 2596.

Nury, F. S., and Smith, E. R. B. Alpha- and beta-lipoprotein cholesterol. Rapid quantitative determination, 209.

V. de Bataafsche Petroleum Maatschappij. Apparatus for the analysis of mixtures of gases by gas absorption percolation, 1021.

Nye, P. H. See Hutton, R. G., 3545.

Nyman, C. J., and Parry, E. P. Polarography of thiourea, 4193.

Oberhummer, M. See Pillat, A., 1306.

Oberthin, H. See Kallmann, S., 2934.

Obolentsev, R. D., Aivazov, B. V., and Ratovskaya, A. A. Polarographic determination of elementary sulphur in petroleum and petroleum products,

Obolonchik, V. A., and Modylevskaya, K. D. Chemical analysis of metal-ceramic alloys [alloys used for cermets] without the use of hydrofluoric acid, 2099.

Obrenović, I. D. See Dizdar, Z. I., 2618.

Obtemperanskaya, S. I., Terent'ev, A. P., and Buzlanova, M. M. Determination of thioalcohols and thiophenols, 2256.

— See also Terent'ev, A. P., 566, 3783.
Ochab, S. See Rafalowska, H., 1345.
Ochs, M. J. See Glick, D., 180.
Ockenden, H. M., and Foreman, J. K. Separation of uranium from large amounts of iron and aluminium by anion exchange in nitrate media, 489. O'Connor, R. T. See Hoffmann, J. S., 1890, and

Lime, B. J., 3188.

Oda, N., and Norishima, K. Determination of hydrogen in titanium and its alloys, 2941. Determination of Quantitative determination of carbon in titanium and its alloys, 2942. Simultaneous quantitative determination of carbon and hydrogen in titanium and its alloys, 2943.

- and Sawabe, S. Determination of nitrogen in

titanium and its alloys, 2944.

Odell, D. P. See Barber, H. J., 3955.

Odler, I. Quantitative determination of methanol in forensic materials, 4239.

O'Donnell, A. E. See Bann, J. M., 4349.

Oe, M. See Suzuki, Yukio, 1499.
Oehlmann, F. Colorimetric determination of copper with 2:2'-diquinolyl, 2117. Determination of zinc in rubber goods, 3420. Determination of zinc in rubber, 3814.

Oehme, F. chme, F. Transistor amplifier for end-point indication of Karl Fischer titrations, 1419. Possibilities of high-frequency measuring technique in analytical chemistry, 2861. frequency measurements in analytical chemistry, 4390.

- and Selkmann, K. High-tension electrophoresis and safety measures, 1077.

Oerter, A. See Bockemüller, W., 756.
Oester, Y. T. See Kinnory, D. S., 3079.
Oetzel, L. I. See Beetch, E. B., 3162.
Offutt, E. B., and Sorg, L. V. Photo-electric gas analysis, 3954.

See also Standard Oil Co. (Indiana), 1080. Ofitserova, V. N. See Solov'ev, L. T., 649. Ogarkova, A. F. See Zolotavin, V. L., 3693. Ogawa, K. Chemical analysis of trace elements in biological material. IX. Effect of pH and salts on the extraction of heavy metals. (2). Extraction curve of lead with dithizone in chloroform. 608; X. Effect of pH and salts on the extraction of traces of heavy metals. (3). Extraction of vanadium with oxine in benzene, 608.

See also Musha, S., 2940, 3786.

Ogawa, M. See Tanaka, S., 592, 2721.
Ogawa, T. Amperometric titration Ogawa, Amperometric titration of micro quantities of methylene blue and methyl violet with tungstosilicic acid, 3054. Amperometric determination of micro quantities of alkaloids. VII. Titration of caffeine, cinchonine and amidopyrine in hydrochloric acid solution with tungstosilicic acid, 3117.

Ogilvie, J. M., Simmons, M. C., and Hinds, G. P., jun. High-temperature gas - liquid chromato-

graphy, 1764.

O'Hagan, J. E., Hamilton, T., Le Breton, E. G., and Shaw, A. E. Human serum bilirubin. Immediate method of determination and its application to the establishment of normal values, 2325.

O'Hara, F. J. See Hinsvark, O. N., 903.
Ohashi, K., Nakayama, T., and Shimasaki, K.
Preparation of the sample for chemical analysis of titanium sponge, 2573

Ohashi, M. See Yamaguchi, H., 4301. Ohira, T., and Imai, K. Examination of the dioxopiperazine reaction of proteins, 953.

Ohira, Y. See Nakano, K., 4394. Ohlweiler, O. A. See Alcides Ohlweiler, O. Ohno, K. See Kuratomi, K., 2742.

Ohno, T. See Kawatani, T., 1673.

Ôi, N., Kageyama, K., and Miyazaki, K. Analysis of drugs and chemicals by infra-red absorption spectroscopy. II. Assay of amidopyrine in pharmaceutical products containing amidopyrine, phenacetin and caffeine, 3133.

and Miyazaki, K. Analysis of dyestuffs intermediates by infra-red absorption spectroscopy Quantitative determination of isomers of chloronitrobenzene, 3053; II. Quantitative determination of chlorodinitrobenzene isomers, 3053.

Okada, K., and Sugiyama, T. Determination of a micro amount of fluoride ion by chelatometric titration, 4105.

Okada, T., Nakai, S., and Kohzuma, T. Spectrographic comparison of inorganic components in oil and slag, 541.

Okagami, A. See Kato, T., 795. Okazaki, S. Quantitative determination of zinc [in protamine zinc insulin] by paper chromatography, 1969. O'Keeffe, J. C. Continuous extraction apparatus,

3942

Okhapkina, N. A. See Kheraskova, E. P., 1584. Okinaka, Y. See Kolthoff, I. M., 3233.

Okuma, S., and Kido, Y. Colour reaction of organic compounds with dimethylglyoxime. III. Detection of hydrazine and nitrogenous organic compounds, 1553.

O'Laughlin, J. W. See Banks, C. V., 846, 2919.
Oldfield, J. F. T. See Eynon, L., 258.
Oldfield, J. H., and Ferm, E. A. R. Application of intermittent a.c. arc unit to the analysis of aluminium alloys, 2138.

Olin, J. S. See Shore, P. A., 3847. Oliveira Meditsch, J. See Alcides Ohlweiler, O.,

Oliveira Meditsch, J. de. Fusion test for iron^{III} employing salicylaldoxime, 2630. Differential spectrophotometric determination of cobalt,

Ixxiv

Oliver, R. T. See Fritz, J. S., 3986. Olsen, A. L. High-temperature cell for infra-red spectroscopy, 2056.

and Kruse, H. W. Agitating system for gases in infra-red absorption cell, 325.

Omar, E. E. See Issa, I. M., 2205. Omori, H. See Fukuda, T., 2829. O'Neal, F. B., and Carlton, J. Chromatography of esters on Florisil. Detection as ferric hydrox-

amates, 4184.

O'Neal, M. J. See Martin, J. M., jun., 3419.

O'Neal, M. J., jun. See Davis, C. E., 1113.

Onishi, H. Photometric determination of thallium with rhodamine B. 2141. Fluorimetric determination of thallium with rhodamine B, 2918.

Ono, K. See Fredrickson, D. S., 3423. Ono, M. See Asahina, H., 1666, 1962. Onoue, K. See Amako, T., 2950.
Onozaki, H. See Tomoeda, M., 3016.
Onrust, H. Determination of very small quantities

of mercury in synthetic dyes for colouring food,

Onstott, E. I., and Brown, C. J. Absorption spectra of terbium perchlorate and terbium chloride solutions, 2144.

Oosting, M. Microscopic reaction for ammonia,

Opel. H. Detection and determination of patulin with the benzidine reagent, 685.

Opem, M. See Lyndersen, D. L., 3551. Opieńska-Blauth, J. Detection of amino acids in

chromatographic analysis, 1313.

Kowalska, H., and Pietrusiewicz, M. Colour

reaction of amino acids with alloxan in chromatographic analysis, 2336. Sensitivity of the ninhydrin test in chromatographic analysis, 3854.

Orchin, M. See Ish-Shalom, M., 2266.
Orlova, V. I., and Portnov, A. I. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Quantitative determination of alkaloids as thiocyanate complexes, 1661.

Ormont, B. F. See Breger, A. Kh., 3699.

Oro, J. F. See Zlatkis, A., 4252.
Orochko, A. I. See Epik, P. A., 4112.
Orr, C. H., and Callen, J. E. Separation of polyunsaturated fatty acid methyl esters by gas

chromatography, 4320. Ortega, J. A. H. See Huerta Ortega, J. A. Os, F. H. L. van, and Scholtens, C. Determination

of carvone and other ketones, 3416. Osawa, Y. Conical paper chromatography, 2439.

Osborn, E. M. See Jennings, P. P., 2005. Ościk, J. See Waksmundzki, A., 1270.

Osgood, D. R., Boyd, J. D., and Blum, A. S. Circulating pump for quantitative estimation of serial radio-isotope uptake in vitro, 4404.

Osgood, E. D. See Johnston, R. S., 2904. Osmond, R. G., Pratchett, A. G., and Warricker, J. B. Determination of long-lived fall-out in

rain-water, 2013. Osolodkov, G. A. Determination of small amounts of xanthate in aqueous solutions by potentio-

metric titration, 135. Ostanek, M. Polarographic determination indium in zinc concentrates containing a high percentage of iron, 3654.

Ostasheva, M. I. See Korenman, I. M., 345.

Osteux, R., Guillaume, J., and Laturaze, J. Separation of volatile aliphatic acids by paper chromatography, 3023.

O'Sullivan, D. G., and Sadler, P. W. Polar and steric effects in paper chromatography, 2088. Oteleanu, R. See Constantinesco, D. G., 960.

Oto, Y., and Matsumoto, C. Spectrographic determination of iron and magnesium in titanium metal, 1859.

Otomo, M. See Kumagami, A., 1959. Ott, D., Pelzer, H., and Staib, W. Chromatographic separation of the dinitrophenylhydrazones of 17-oxosteroids on alumina, 2353.

Ottaway, J. H. Colorimetric estimation of tyrosine, 4256

Otterson, D. A., and Graab, J. W. Colorimetric determination of molybdenum in the presence of

tungsten. Mercaptoacetate method, 4090.

Owades, J. L., Rubin, G., and Brenner, M. W.

Direct ethylenediaminetetra-acetate titrimetric determination of magnesium and calcium in beer, Determination of food tannins by ultraviolet spectrophotometry, 3525.

 See also Brenner, M. W., 2396.
 Owen, J. A., and Got, C. Electrophoresis of human haemoglobins in starch gel, 1643.

Owers, M. J. See Henderson, E. H., 785. Ozaki, T. High-frequency detector for eluates

from ion-exchange columns, 1998.

Ozanne, P. G. See Johnson, C. M., 3928. Ozawa, T. See Iwasaki, I., 507, 2971, 4079.

Packman, E. W. See Harrisson, J. W. E., 975. Padalka, N. A. See Solov'ev, L. T., 649. Padhye, V. P. Determination of calcium and mag-

nesium in plant material by titration with disodium ethylenediaminetetra-acetate, 1711.

Pádr, Z. See Šmíd, M., 255.
Pagani, B. See Nebbia, L., 2200, 3027.
Page, E. S. See Chalmers, R. A., 3663.
Paige, B. E., Elliott, M. C., and Rein, J. E. Ultraviolet spectrophotometric determination of uranium, 88.

Goris, P., and Rein, J. E. Determination of uranium in irradiated thorium, 3334.

Paklina, V. P. See Shvaiger, M. I., 3314.

Palacky, A. Densitometric adapter for direct plotting of electrophoretic curves from paper strips, 2459.

Palei, P. N. [Reviews of Russian analytical chemistry.] Analytical chemistry of the actinides.

- Sentyurin, I. G., and Sklyarenko, I. S. Thermogravimetry in analytical chemistry. thermobalance of simplified design, 1071.

Palilla, F. See Bastian, R., 1491.
Palin, A. T. Photometric determination of colour and turbidity of water with proposed new

Pallansch, M. J. See Schwartz, D. P., 950, 2243.
Pallotta, U. See Liberti, A., 4319.
Palmer, G. H. See Hall, G. R., 833.
Palmer, J. G. See Crawford, A., 3683.
Pang, S.-W., and Lu, M.-L. Gallein as a reagent for colorinative determination of antimes.

for colorimetric determination of antimonyIII,

Panicker, A. R., and Banerjee, N. G. Determination of carbon and hydrogen in tar, pitch and oils with high boiling-points, 910.

Panova, N. I. See Scholova, E. V., 1229.

Pap, É. See Szekeres, L., 3310.

Papafil, E., Papafil, M., Kleinstein, A., and Macovei,

V. Colorimetric method for the determination of copper with diphenyldi-o-tolyloxamidine, 4001. Papafil, M. See Papafil, E., 4001.

Pappas, B. A., and Duerr, J. D. Assay of procaine penicillin in sesame oil by optical rotation, 4281. Pappenhagen, J. M. Colorimetric determination of nitrates, 2163.

Paprocka, B. See Rafalowska, H., 1345. Papucci, R. A., and Klingenberg, J. J. Determination of zirconium in titanium alloys using pbromo- or p-chloro-mandelic acid, 4048.

Parellada Bellod, R. See Capitán García, F., 583. Paris, R., and Durand, M. Assay of aloes: photometric determination of aloin, 683.

Párkányi, C. Polarographic determination of benzaldehyde in the juice of stewed fruit, 3900.

Parker, A. See Booth, E., 2902.
Parker, C. A., and Barnes, W. J. Experiments with spectrofluorimeters and filter fluorimeters, 1740.

Parker, G. H. See Bricker, C. E., 791.

Parker, W. E. See Susi, H., 2688.

Parker, W. H. Determination of sugar in sugar beets. I, 4306.

and Bond, G. M. "Spaldinlab" Sugar-tektor, 3944.

Parkhurst, D. H. See Corbett, J. A., 1161. Parmentier, G. See Vanderhaege, H., 1341.

Parriak, V. See Machovičová, F., 1965.

Parry, E. See Belcher, R., 504.

Parry, E. P. See Nyman, C. J., 4193.

Parry, T. E. Paper chromatography of 56 amino compounds using phenol and butanol - acetic acid as solvents, 199.

Parsons, C. A., & Co. Ltd. Sonic gas analysers, 1023, 1025, 2031. Spectrometers, 2055.

Parsons, D. S. See Amoore, J. E., 3951.
Parsons, Sir Howard Grubb, & Co. Ltd. Sonic gas analysers, 1024. Gas chromatography, 2048. [Elimination of standing waves] from sonic gas analysers, 2831.

Parsons, J. L., Neerman, J. C., Lifsitz, J. R., and Bryan, F. R. Determination of carbon dioxide in automotive exhaust by infra-red filter-photometer, 4032.

Parsons, J. R. See Young, J. C., 4377.

Parsons, J. S. Permselective membrane electrodes.

Analytical applications, 4388.

Parsons, R. W. See Hu, P. M., 1741.

Partashnikova, M. Z. See Mikhailova, L. A., 2844.

Partikian, D. G. See Cali, L. J., 1918.

Pascual, J., and Freiling, E. C. Rare-earth solutions

for 4\u03c4-counting, 2147. Pasich, B. Detection of triterpenoid acids on paper

chromatograms, 4207.

Pasovskaya, G. B. Conductimetric determination of hardness of water by means of EDTA (disodium salt), 1384. Conductimetric determination of aluminium, 2915.

Passell, T. O. See Rubin, S., 1725.
Passeri, R. [Seminar of the Centro Ricerche Spectrochimiche, of the Associazione Italiana di Metallurgia.] Blackening and effective line width, 15.

Pasvik, M. A. See Starik, I. E., 469, 3727.

Patani, A. See Rochelmeyer, H., 3495.
Patel, C. C. See Tandon, S. G., 1214.
Patient, D. A. [Congress. Modern analytical Patient, D. A. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] An approach to automatic analytical measurements, 2478.

Patnaik, B. K. Thiazolidones and 5-aminothiazolidones as reagents for copper and silver, 373.

Patrovsky, V. Separation and determination of rhenium, 842. Complexones in chemical analysis. LIII. Photometric determination of niobium and tantalum with catechol and EDTA, 3694. Catechol in photometric analysis, 3981.

Patsuk, V. V. Determination of small amounts of selenium. I. Permanganate method, 476. Detection of selenium by means of N-phenylanthranilic acid, 1183.

Patterson, G. D., jun., and Mellon, M. G. Colorimetric determination of sulphur dioxide, 1828.

Patterson, J. M. See Smith, W. T., jun., 2867. Patterson, S. J., and Savage, R. I. Selective desorption from carbon columns for the determination of dextrose and maltose in starch conversion products, 2386.

Patwardhan, M. V. See Desikachar, H. S. R., 1365.

Patze, D. See Götte, H., 826.
Paukner, E., Kleber, W., and Lindemann, M.
Determination of the proteolytic activity of enzymic preparations used for the stabilisation of beer, 1370.

Paul, F. Alkalimetric determination of free, combined and total sulphurous acid by means of the Lieb - Zacherl apparatus, 3524.

See also Schaller, A., 4312.

Paul, J. Determination of the major constituents of small amounts of tissue, 2327.

Paul, S. D. See Verma, M. R., 1268. Paul, V. See Hoffman, S., 3808. Paulik, F., Paulik, J., and Erdey, L. The derivatograph. I. Automatically recording apparatus for the simultaneous plotting of thermogravimetric, differential thermogravimetric and derivative thermogravimetric curves, 4379; II. Gravimetric micro-distillation method for the study of liquids, 4379.

Paulik, J. See Paulik, F., 4379.

Paulik, J. See Paulik, F., 4379.

Paulson, J. C. See Durso, D. F., 3417.

Paulus, W., and Mallach, H. J. Paper-chromatographic identification of diethyl p-nitrophenyl phosphorothionate [parathion] and sulphonamides in mixtures, 2385.

Pauthe, P. See Bejambes, M., 3517.

Pavlas, P., and Melounová-Häuslerová, O. Electrophoretic separation of amino acids in sugar-factory products, and the identification of y-aminobutyric

acid and of ornithine, 1983.

Pavlenko, L. I. See Weinstein, E. E., 1769.

Pavlik, M., and Mach, M. Ion exchangers in analysis of water, 2002. Catex method for the determination of sulphates in water and the comparison with commonly used methods, 2009.

Pavliková, E. See Michal, J., 3281, 4004.
Pavlova, P. S. See Kazanskii, B. A., 3048.
Pavlovec, R. See Comerman, C., 3640.
Pavlovskaya, N. T. See Vinogradov, G. V., 152.
Pawliczak, I. See Jasinski, T., 1344.
Pawliw, J., and Spinks, J. W. T. Neutron moisturemeter for concrete, 337.

Pazdera, H. J., McMullen, W. H., Ciaccio, L. L., Missan, S. R., and Grenfell, T. C. Quality control of pharmaceuticals. Quantitative paper chromatography in conjunction with instrumental methods, 1327.

Pchelina, V. S. See Morachevskii, Yu. V., 532. Peake, D. M. See Elwell, W. T., 1824, and Sutcliffe, G. R., 2654.

Pearson, J. D. See Lubran, M., 3844.
Pease, H. L. Determination of different control of the cont Determination of dithiocarbamate fungicide residues, 2821.

Peattie, C. G., and Rogers, L. B. Analytical studies of the fluorescence of samarium in calcium sulphate, 1152.

Pecsok, R. L. See Sawyer, D. T., 3227.
Pein, G. [Scandinavian symposium on fat rancidity. Elsinore, 1957.] Determination of peroxide in rye and rye crisp-bread, 3527.

Peirson, D. H. y-Ray spectrum of fission products from slow neutron irradiation of uranium-235,

and Iredale, P. y-Ray scintillation spectrometer, 2070.

Pella, E. L. See Fernandez Segura, H., 2152. Pellerin, F. See Gautier, J. A., 4305.

Pelzer, H., and Staib, W. Conjugated steroids. I. High-voltage paper electrophoresis of 17-oxosteroid conjugates, 2354. See also Ott, D., 2353.

Pence, J. W. See Kong, R. W., 2389, and Sacks.

L. E., 1674.

Pendse, G. P., Bhargava, H. D., and Sant, B. R. Gravimetric determination of silver as silver chromate, 3625.

Penketh, G. E. See Harvey, D., 138. Pennimpede, F. C. See Issaly, A. S., 2740. Pentegova, V. A., and Lisina, A. I. Adsorption chromatography in the analysis of rosin acids and hydroxy rosin acids, 1934.

Penther, C. J., and Noller, G. W. Self-balancing laboratory differential refractometer, 3575

Pentz, E. I., Davenport, C. H., Glover, W., and Smith, D. D. Determination of taurine in urine,

Pepe, T. L., and Vestita, A. rancidity of oils and fats, 2796. Determination of

Pépin-Donat, C. Complexometric determination of zinc in brass, 3638.

Peppard, D. F., Mason, G. W., and Moline, S. W. Dioctyl phosphoric acid extraction in the isolation of carrier-free 90Y, 140La, 114Ce, 143Pr and 144Pr,

1474. Peregud, E. A., and Boikina, B. S. Micro-determination of elementary fluorine, 1201.

Perel'man, Ya. M. Potentiometric titration of certain salts of alkaloids and synthetic bases,

Perepelkin, K. E., and Sorokin, Ya. Z. Analysis of concentrated sulphur-containing gases, 4075.

Pérez, A. R. See Rodriguez Pèrez, A. Pérez, C. A. L. See López Pèrez, C. A. Per Lee-Motter, R. See Meyer, A. E., 183. Perlman, M. H. See Rosenthal, I., 3192. Perloff, W. H. See Hadd, H. E., 301.

Pernarowski, M., and Chatten, L. G. Identification and quantitative analysis of certain quaternary ammonium compounds using ultra-violet absorption spectra, 4189.

Perold, G. W., and Snyman, J. M. Organic analysis. Micro-determination of active hydrogen in highly insoluble substances, 3763.

Peroutka, O. See Majer, J., 2722. Perpar, M. See Kolšek, J., 2693.

Perrin, C. H., and Ferguson, P. A. Determination of moisture in meat products, 2781.

Perrin, D. D. Determination of phylloerythrin in blood, 3832.

Perry, J. A., and Bain, G. H. Procedure for setting up infra-red differential analyses of multicomponent mixtures, 324.

Persiantseva, V. P., and Shneider, V. A. Colorimetric determination of naphthalene-2:6- and -2:7-disulphonic acids in nickel electrolytes, 2697.

Person, M. See Fournier, R. M., 275. Persson, R.-M. See Bethge, P. O., 126.

Perugini, G. Analysis of chlorine - hydrogen mixtures, especially technical-grade chlorine from electrochemical plants, 4108.

Pervova, N. I. See Yasnopol'skii, V. D., 83. Pesez, M. Colour reaction of derivatives of colchicine in the presence of nicotinic or isonicotinic acid hydrazide, 3109.

Peshkova, V. M., and Antipova-Karataeva, I. I. Reviews of Russian analytical chemistry. Photometric methods of analysis, 1082.

Gallai, Z. A., and Alekseeva, N. N. Amperometric determination of molybdenum, 3713.

and Mel'chakova, N. V. Conference on Methods of Analysis of Rare and Non-Ferrous Metals. Moscow, 1956.] Reaction of nickel and copper with dimethylglyoxime in the presence of oxidising agents, 1442

and Nazarenko, I. I. [Conference on Methods of Analysis of Rare and Non-Ferrous Metals. Moscow, 1956.] Analytical properties of benzil

and anisil dioximes, 1442.

Zagorevskii, V. A., Bochkova, V. M., and Kuznetsov, D. I. Synthesis and use of di-1-naphthyldiketone monoxime for the determination of cobalt, 527.

 See also Gallai, Z. A., 1176.
 Pešić, D. S., Vukanović, V. M., Marinković, S. N., and Marinković, M. D. Spectrochemical determination of impurities in uranium, 1844.

Pesis, A. S. See Šokolova, E. V., 1229. Petcov, R., and Råducanu, G. Colorimetric determination of large amounts of silica, 61.

Petek, M. See Pučar, Z., 2347, 3469.

Péter, A. See Sándor, Z. von, 982. Péter, F. Modified Van Slyke method, 2734. Peterkin, M. E. See Kurtz, S. S., jun., 4214.

Peterlin, A. See Krašovec, F., 3811.
Peters, E. D. See White, T. T., 2660.
Peters, T. V., jun. Analysis of mixtures of the condensed phosphates by ion-exchange chromatography, 74.

Peterson, J. I., Melnick, F. A., and Steers, J. E., jun. Evaluation of inert-gas fusion method for determination of oxygen in steel, 4119.

Petránek, J., and Večera, M. Organic quantitative analysis. XVI. Colorimetric determination of small amounts of aldehydes, 2235.

small amounts of aldenydes, 2235.

— See also Večeřa, M., 889, 2273.

Petrashen', V. I. See Belogorskaya, N. V., 478, and Kondratova, V. P., 1481.

Petretic, G. J. See Bertram, H. W., 2619.

Petříková, H. See Hrdý, O., 2377.

Petrikova, M. N., and Alimarin, I. P. Ultra-micro chemical analysis. Amorometric titration, 1418.

chemical analysis. Amperometric titration, 1418.

— See also Alimarin, I. P., 3239.

Petrov, A. A. See Zaidel', A. N., 1110.

Petrova, A. N. See Bekina, R. M., 1656.

Petrova, L. N., and Novikova, E. N. Determination

of alcohols by dehydration, 556.

— See also Novikova, E. N., 1259.
Petrova, N. V. See Zverev, L. V., 2935.
Petrovački, M. Determination of phenylpyruvate and phenylalanine in body fluids, 3845.

Petrovič, J. Identification of calcium hydrosilicate in calcium concretes, 2130. Identification of hydrosilicates in lime sand, 3291.

Petrov-Spiridonov, A. E. Polarographic determination of phosphorus, nitrates, potassium and calcium in soil, 4339.

Petrzhak, G. I. See Grinberg, A. A., 488. Petty, J. See White, J. W., jun., 3018. Petuely, F., and Meixner, N. Small vacuum evapora-

tor, 1400.

Peyron, A. See Mousseron, M., 3789. Pezold, F. A. Comparative investigation of lipoproteins in human serum and ultracentrifugates by zone electrophoresis on paper and agar, 3471.

Pfab, B. See Hegemann, F., 3607. **Pfandl, K.,** and **Klotz, J.** Determination of alkaloids by chromatography on alumina. I. Total alkaloids of tincture of cinchona, 4275.

Pfeifer, S. See Miram, R., 1961.

Pfeil, D. See Eisenbrand, J., 706.

eil, E., Friedrich, A., and Wachsmann, T. Qualitative inorganic analysis by paper chromatography: separation of common cations, 2513. Pfennig. N. Detection of purines and pyrimidines

on paper chromatograms, 2732

Pfluke, M. L. See Rosenthal, H. L., 666.
Pfrengle, O. Paper chromatography of condensed phosphates, 2171.

Pfundt, H. See Intonti, R., 15.
Phatak, K. D., and Aggarwal, J. S. Tetrabromide estimation of linoleic acid in fatty acid mixtures.

Phifer, L. H. Flame-photometric determination of calcium in cellulose, 871.

See also Dux, J. P., 1580.

Philipp, B. Polarisation voltage titrations, 2467. and Hoyme, H. Complexometric estimation of

iron in cellulose, 166. Analysis of black liquor from sulphate cooking of cellulose, 3056.

See also Wronski, M., 4074.

Philippe, J., Jolchine, Y., and Alcaraz, O. Characterisation and determination of streptidine in streptomycin and dihydrostreptomycin, 3123.

Phillips, G. Determination of plutonium

differential spectrophotometry, 2195.

Phillips, J. P., and Deye, J. F. Infra-red spectra of oxine chelates, 1771.

Piatti, L. See Brühlmann, R., 844.

Picard, J. P. See Siele, V. I., 3368.

Piccardi, G. Simultaneous potentiometric determination of chromium and vanadium, 3710.

Picciotto, E., and Wilgain, S. Measurement of thorium on the millimicrogram scale, 444.

See also Koczy, F. F., 719.
 Pickard, J. A. See Martin, J. T., 728.

Pickett, E. E., and Hankins, B. E. Carrier precipitation of trace elements. Radio-isotope evaluation of efficiency, 2020.

Pickhardt, W. P., Safranski, L. W., and Mitchell, J., jun. Micro-determination of carbon and hydrogen in pyrophoric and hygroscopic organic compounds, 4155.

Piehl, F. J. See Powers, G. W., jun., 1923. Pieniro, A. S. See Sampedro, Pieniro, A.

Pierson, D. H., and Iredale, P. Development of gamma-ray spectrometry applied to the analysis

of radio-isotopes, 2863.

erucci. M. [Seminar of the Centro Ricerche Pierucci, M. Spectrochimiche of the Associazione Italiana di Metallurgia.] Normal and anomalous inhibitions and sensitised emissions, 15.

Pietrusiewicz, M. See Opieńska-Blauth, J., 2336.

Pietrzyk, D. J. See Fritz, J. S., 3986.

Pietsch, R. Precipitation of uranium with cacodylic acid, 2613. Uranium separation with cacodylic acid, 3323. Precipitation of metals with monoand di-methylarsinic [methylarsonic and dimethylarsinic] acids, 3600.

— See also Musil, A., 3988. Pilar de la Maza, M. del. See Vioque, E., 559.

Pilar Villagrán, M. del. See Vioque, A., 1375.

Pilcher, G. Simplified calorimeter for the precise determination of purity, 748.

Pilet, P. E. Photometric determination of indol-3ylacetic acid: application to a study of auxin oxidase, 3549.

Pilipenko, A. T., Varchenko, T. P., Kudelya, E. S., and Kostyshina, A. P. Chemico-analytical properties of xanthates. IV. Solubility products of zinc, nickel, iron and cadmium xanthates, 1106.

- See also Zharovskii, F. G., 2948.

Pillat, A., Trichtel, F., and Oberhummer, M. Comparative microchemical investigations of the iodine content of human blood serum and tear fluid, 1306.

Pillay, P. P., Rao, D. S., Nair, C. P. N., and Varkey, E. T. Improvement in the technique of frontal analysis of mixtures by the use of divided columns, 3946.

Pilleri, R. Complexometric determination of potassium, 28.

Pilz, W. Determination of calcium in serum, 3819. Determination of E605 (parathion) and methyl E605 [parathion-methyl] in air and dust, 3917.

Pinchuk, N. Kh. See Morachevskii, Yu. V., 520. Pinguet, Mlle. Application of alcoholysis to the determination of medicaments containing acetyl groups, 4288. Pinkava, J. See Kaláb, V., 3560.

Pinta, M., and Aubert, H. Determination of aluminium in soil extracts by its depressing action on the flame emission of calcium, 2022.

Pinus, A. M. Photometric determination of chromic oxide with EDTA (disodium salt) in chrome magnesites and in chromium ores, 85.

and Hagedorn, H. Photo-electric Piper, E., colorimetric analysis: determination of phosphorus, tungsten, silicon, nickel and boron in steel, 1226.

Piper, I. See Woodside, J. M., 3508.
Pippen, E. L., Byring, E. J., and Nonaka, M.
Chromatographic separation of 2:4-dinitrophenylhydrazones, 873.

Pire, J. See Hissel, J., 2421.
Pirtea, T. I., and Antonescu, E. Gravimetric determination of cobalt in the presence of nickel and other elements, 1866.

- and Mihail, G. Gravimetric micro-determination of beryllium, 2899. Gravimetric micro-determination of thorium, 3674. and Stroe, A. Micro-gravimetric determination

of zinc, 393.

— See also Spacu, G., 1166. Písecký, J. See Cúta, F., 2187. Pitet, G. See Brustier, V., 1944.

Pitet, G. See Brustier, V., 1944. Pittwell, L. R. Standards for the spectrographic analysis of magnesium its alloys and aluminium alloys, 38.

Plašil, Z. See Basl, Z., 4064.

Plaza, H. C. de la. See Carrancio de la Plaza, H. Plebani, T. N., and Bigoni, G. Significance of

refractive index of refined olive oils, 2797.

Plein, E. M., and Plein, J. B. Cylinder-plate determination of diffusion of antibacterial drugs from ointments, 3501.

Plein, J. B. See Plein, E. M., 3501. Plessing, H. See Tschapke, H., 268.

Pleticha, R. Polarography and oscillography of vitamin B, from the analytical standpoint, 3170. and Stefan, V. Determination of ammonia and volatile aliphatic amines by an indirect polaro-

graphic method, 565. Pligin, S. G. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Quantitative determination of penicillin, 1661

— See also Portnov, A. I., 1661. Plimmer, J. R. See Carruthers, W., 4201. Pliška, V. See Vepřek-Šiška, J., 3306.

Ploompuu, J. See MacDonald, R. P., 3439.

Ploum, H. Determination of arsenic in ores and other non-metallic materials and in nitric acidresisting-ferro-alloys, 1170.

Poch, T. Apparatus for separation of substances by paper electrophoresis, 1076.

Podall, H. E. Spectra-structure correlations of

alkylpyridines, 894.

Podehainova, V. N. Reaction of the cuprous ion with ammonium tetrathiocyanatodiamminochromium, 3615. Colorimetric determination of copper in aluminium, cadmium, zinc and nickel with p-anisidine and potassium thiocyanate, 3620.

and Mishina, A. G. Micro-chemical reaction for copper ion, 3613.

Podzimek, J. See Michalec, Č., 668. Poe, C. F. See Cox, B. C., 4293.

Pærregaard, P. Quantitative determination of small amounts of morphine in human urine,

Pogell, B. M. See Carvalho, C. A. de, 2233.

Pohja, M. S., Aalto, E., and Niinivaara, F. P. Paper-chromatographic determination of phosphates used in meat products. I. Qualitative detection of ortho-, pyro- and poly-phosphates,

Pohl, F. A. Polarographic determination of impurities in semi-conductor materials, 2883.

and Kokes, K. Micro-analytical and polarographic determination of traces of thallium, 415. Pohl. H. Photometric determination of magnesium in aluminium and its alloys with Eriochrome black T, 4010.

Pohle, W. D., and Tierney, S. E. Spectrophotometric method for the evaluation of vegetable-oil colours, 1992.

Pohloudek-Fabini, R. See Luthardt, K., 1892.

Pöhm, M. Micro-determination of tropane alkaloids, 3493.

- and Weiser, R. Detection of deoxy sugars on paper chromatograms, 557.

Poindexter, E. H. See Powell, W. A., 1139, 1140,

Point, J. J. Determination of small amounts of carbon in iron by proton irradiation, 2637.

Pojasek, W. J. See Moak, W. D., 3722. Pokorná, V. See Zahradník, M., 1928. Pokorný, J. Determination of the iodine value of fats, 2406.

Pokrovskaya, V. L. See Ershov, B. P., 1904. Pokrovskii, V. A. Mixed colour indicator for the

detection of ethylene oxide, 555

Pol, E. W van der. See Hardon, H. J., 291. Polanek, J. Simple construction of a streaming

mercury electrode, 2461.

Polčin, J. Determination of total sulphur in sulphides, sulphites and thiosulphates by means of ion exchange and conductimetric titration, 2183.

Pollard, F. H., McOmie, J. F. W., Banister, A. J., and **Nickless, G.** Quantitative inorganic chromatography. III. Separation and determination of ferrous and ferric iron, 2209.

Polley, E. W. See Flickinger, L. C., 1524, 2989. Polli, B. [Seminar of the Centro Ricerche Spectrochimiche of the Associazione Italiana di Metal-lurgia.] "CF4 Optica" spectrophotometer, 15. Pollock, E. See Read, E. B., 3262.

Pólos, L. See Erdey, L., 2547.

Poluéktov, N. S., Kononenko, L. I., and Nikonova, M. P. Determination of lithium in ores by flame spectrophotometry, 356.

Kononenko, L. I., and Surichan, T. A. Complexometric titration of zirconium and hafnium, 68. Nikonova, M. P., Leiderman, Ts. A., and Lauér,

Flame-photometric determination of strontium in ores, 2906.

Polyak, L. Ya. Potentiometric determination of small amounts of barium in nickel-base alloys with EDTA (disodium salt), 390.

Polyakov, M. P., and Polyakova, V. P. New principle in semi-quantitative spot analysis, 3964.

Polyakov, P. M., Rusanov, A. K., and Blokh, I. M. Spectrographic analysis of beryllium, 2532.

Polyakov, V. P. See Litvinenko, L. M., 1679, 3885,

and Polyakov, M. P., 3964.
Polyanskii, V. N. Extraction for increasing the sensitivity of the colorimetric determination of chromium with 1-naphthylamine, 3707.

Pólyik, E. N. See Nagy, Z., 2803.

Pomeranz, Y. Detection of exhausted coffee in genuine roasted coffee and estimation of the added amount, 3158.

Ponomarev, A. I., and Sheskol'skaya, A. Ya.

Determination of niobium in the presence of large amounts of titanium, 466.

Pons, W. A., jun., and Hoffpauir, C. L. Determination of free and total gossypol in mixed feeds containing cottonseed meals, 2816.

Ponting, K. W. See Kemp, W. P., 2834.

Poós, L. See Proszt, J., 762. Pop, V. See Mihul, C., 1435. Popa, L. See Popper, E., 2548.

Popa-Crăciuneanu, R. See Popper, E., 1478.

Pope, M. I. Automatically recording vacuum balance, 294.

Popescu, M. See Atanasiu, I., 4139.
Popov, A. See Rankov, G., 3776, 3777.
Popov, G. I. Influence of tartrates and citrates on

the gravimetric determination of cadmium with carbonate, 1466. Popov. V. R. Quantitative determination of ammonia

in plants containing tannic substances, 3547.

Popov, V. V., and Sobchuk, B. A. Photometric determination of haemoglobin, 939.

Popova, N. M., and Zaslavskaya, L. V. Colorimetric determination of the iron carbide content in steel, 3343.

See also Zaslavskaya, L. V., 107.

Popowicz, J. See Sikorska-Tomicka, H., 2176. Popowicz, M. Cryoscopic determination of the p-xylene content in the xylene fraction, 1264.

Popper, E., Ariton, N., and Popa-Craciuneanu, R. Semi-micro gravimetric method for lead, 1478 Ariton, N., Proinov, L., and Craciuneanu, R.

Gravimetric method for mercury, 1792. Popa, L., Junie, V., and Roman, L. Gravimetric method for cadmium, 2548.

Porath, J. Zone electrophoresis in columns, 1075.

— See also Gedin, H. I., 2345.

Porkhunova, N. A. Spectrographic determination of impurities in pig cadmium, 4018.

Porter, C. A., Margolis, D., and Sharp, P. Quantitative determination of amino acids by paper chromatography, 1314.

Porter, J. T., II. Polarographic standardisation. 1414. Polarographic determination of tin in zirconium alloys, 2937.

Portnov, A. I., and Pligin, S. G. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Qualitative reaction for penicillin, 1661.

and Zaitseva, R. M. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Quantitative determination of procaine and amethocaine with thiocyanate complexes, 1661.

See also Orlova, V. I., 1661.

Portnov, M. A., and Muzychenko, L. A. Refractometric production control of intermediates and dyestuffs. I. Determination of p-chloronitrobenzene in o-chloronitrobenzene, 578.

and Shein, S. M. Potentiometric titration for determining free alkali in solutions of phenols

and aromatic sulphonic acids, 3041.

- and Tomilov, B. I. Potentiometric determination of p-nitrotoluene in m-nitrotoluene, 579.

Posgay, E. See Bayer, I., 2764.

Posthuma, R. See Freeman, L., 640. Potapov, V. K. See Kupriyanov, S. E., 4168.

Potter, E. C. Micro-determination of dissolved oxygen in water. I. Nature of the problem. 277; II. Design of water-sampling vessels, 277.

 and White, J. F. Micro-determination of dissolved oxygen in water. III. Titrimetric determination of iodine in submicrogram amounts. 277; IV. Test of Winkler's reaction to below 0.001 p.p.m. of dissolved oxygen, 277; Development of a self-testing and fully compensating analytical method, 1002.

See also Central Electricity Authority, 1020,

2011.

Potter, E. F. See Hunter, I. R., 2234. Potter, J. C. See Bann, J. M., 4349. Potvin, P. See Rosenkrantz, H., 3472.

Poucke, R. van. Titrations in non-aqueous solvents.

Poulaert, G. See Koczy, F. F., 719. Poulsen, K. G. See Villadsen, J. V., 2569. Poussardin, R. See Castro, R., 2995.

Powell, A. R. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Modern analytical Modern analytical chemistry and the rarer metals,

Powell, D. A. Apparatus giving thermogravimetric and differential thermal curves simultaneously

from one sample, 328.

Powell, H., and Thomas, W. H. Trends in petroleum analysis, 3797.

Powell, R. A., and Kinser, C. A. Dithizone determination of lead in monazite, 4040.

Powell, W. A., Hardeastle, E., and Poindexter, E. H. Curcumin (turmeric) method for spectrophotometric determination of boron, 1141.

and Poindexter, E. H. Carminic acid method for spectrophotometric determination of boron, 1139. 1: 1'-Dianthrimide method for spectrophotometric

determination of boron, 1140.

Powers, G. W., jun., and Piehl, F. J. Chromatographic analysis of soap-thickened lubricating

greases, 1923. Powers, R. M., Day, R. A., jun., and Underwood, A. L. Titrimetric determinations of magnesium

and aluminium oxinates, 2125. Pozdnyakova, V.T. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Ammoniacal solution of picric acid for the micro-crystalloscopic analysis of a group of alkaloids, 1661.

Prabhu, K. A. See Shukla, J. P., 3894. Praeger, S. S. Selective solvents for analysing textile fibre mixtures, 1578.

Prakash, D. See Srivastava, S. P., 2709.
Prakash, O., Gupta, A. C., Athawale, V. D., and
Rai, S. Detection of adulteration of animal fat in ghee by critical temperature of dissolution, 2787

Prakash, S. See Tripathi, S. C., 4002, 4098.
Prasad, B. See Nanda, R. K., 1463.
Prasad, K. See Khanna, K. L., 285.

Prat, J., and Colas, A. Determination of aldrin and isodrin, 1017.

Prat, Y. See Lascano Ruiz, I. S., 262. Pratchett, A. G. See Osmond, R. G., 2013.

Pratt, E. L. Quantitative measurement of l-phenylephrine hydrochloride in dilute aqueous solution, 973. Spectrophotometric titrations with nitrous acid. I. The estimation of procaine hydro-I. The estimation of procaine hydrochloride, propoxycaine hydrochloride, and tetracaine [amethocaine] hydrochloride, 3507.

Preisler, E. See Ziegler, M., 2649.

Prekopp, I. Determination of rancidity of melted butter by means of diphenylcarbazide, 3157,

Preobrazhenskii, B. K., and Lilova, O. M. Purification of lactic acid for chromatography, 1087. Pretorius, V. See De Wet, W. J., 3206, and Harley.

J., 3949.

Přibil, R. Developments in chelatometry, 2872.

Körbl, J., Kysil, B., and Vobora, J. Complexometric titrations (chelatometry). XXXVI. Screening of iron by triethanolamine: the determination of calcium with thymolphthalein complexone, 3632.

and Kőrös, E. Complexometric micro-deter-

mination of thorium, 3675.

See also Buben, F., 793, Houda, M., 2914, and Körbl, J., 10, 2495, 2498. Price, H. L., and Price, M. L. Chemical estimation

of adrenaline and noradrenaline in human and canine plasma. II. Critique of the trihydroxy-indole method, 2729.

Price, J. M. See Satoh, K., 3843. Price, M. L. See Price, H. L., 2729. Pricer, W. E. See Rabinowitz, J. C., 2728.

Pridham, J. B. Determination of phenolic glycosides

and aglycones on paper chromatograms, 283. Priestley, L. J., jun. See Haskin, J. F., 2228. Prieto Bouza, A. See Bermejo Martínez, F., 2611. Primak, W. Adaptation of a spectrometer as an Primak, W. Adaptation of a spectro absolute Pulfrich refractometer, 326.

Pringle, W. J. S. Analysis of inorganic constituents of coal by photometry, 1239.

Prins, H. K. See Huisman, T. H. J., 1644.

Pro, M. J., and Nelson, R. A. Determination of added distinctive cations in whisky. IX. Ultra-violet spectrophotometric determination of cerium, 990. Spectrophotometric determination of Demerol [pethidine], 2765.

See also Nelson, R. A., 2790, 3903.
 Proctor, K. A. See Elvidge, D. A., 2756.
 Proinov, L. See Popper, E., 1792.
 Prokeš, J. See Vorel, F., 3083.

Prokof'ev, V. K. Emission spectrographic analysis in the USSR, 2480.

See also Moroshkina, T. M., 2616.

Prokof'eva, I. V. See Pshenitsyn, N. K., 2655. Propst, R. C. Polarographic determination of uranium in the presence of molybdenum, 3327.

Proshkovich, M. F., and Faleev, P. V. Analytical determination of selenium and tellurium in ores and their decomposition products, 4082.

Prosperi, D., and Sciuti, S. Radiometric determination of uranium and thorium in minerals, 4097.

Prosz, A. W. See Fraser, J. G., 599. Proszt, J., and Győrbiró, K. Polarographic analysis of water. Determination of the hardness and alkali elements, 2414.

and Poós, L. Polarocoulometry: a new method of measuring concentration, 762.

Protsenko, P. I. Analysis of blast-furnace slag, 1872.

Provotorova, L. M. Chromatography in forensic chemical analysis of biological meterials for the presence of nickel compounds, 1595.

Provvedi, F. Fluoriphotometric analysis of fats, 1696

Przheval'skił, E. S., Belyavskaya, T. A., and Golovina, A. P. Determination of small quantities of beryllium with hydroxyquinones, 1786.

Shlenskaya, V. I., and Razina, I. S. Colorimetric determination of palladium by means of 4introsodiphenylamine with non-aqueous solvents, Przybylowicz, E. P., and Rogers, L. B. Coulometric titrations with Hg⁺ and Hg²⁺. [I.] Determination of cyanide, 1802; [II.] Determination of sulphide, 4076.

Pshenitsyn, N. K., and Fedorenko, N. V. Salts of N-substituted dithiocarbamic acids and their use in the determination of rhodium and iridium. 4144.

Gladyshevskaya, K. A., and Ryakhova, L. M. Ion exchange in the analysis of the platinum metals. I. Separation of copper, nickel, iron and lead from platinum, palladium, rhodium and iridium, 2656.

and Ivonina, O. M. Gravimetric determination of palladium with cyclohexane-1: 2-dione dioxime

(nioxime), 1530.

and Nekrasova, G. A. β-Furfuraldoxime for determining large amounts of palladium in the presence of copper and nickel, 536.

and Prokof'eva, I. V. Reaction of thionalide with the platinum metals and the use of the compounds formed in analysis, 2655.

Ptitsyn, B. V. See Grinberg, A. A., 488. Pučar, Z. Electrophoresis of the halogen complexes of mercury¹¹, bismuth¹¹¹, cadmium¹¹, lead¹¹ and copper¹¹. I. Chloro complexes in hydrochloric acid, 2551; II. Dependence of the mobilities on the concentration of the metal ions, 2551.

Keler, M., and Petek, M. Two-dimensional electrochromatography and triple staining of

normal serum, 3469.

and Petek, M. Two-dimensional electrochromatography of serum proteins, 2347. See also Krajovan-Marjanović, V., 3007.

Puche, R. C. T. Partition chromatography on filter-paper of the synthetic colours used in food,

Puck, A. Chemical estimation of oestradiol, oestrone and oestriol in the peripheral blood of women, 955.

Puff, H. See Juza, R., 3305.

Puffeles, M., and Nessim, N. E. Comparison of flame-photometric and chemical determinations of sodium and potassium in soil, plant material, water and serum, 286.

Puig, A. C. See Camuñas Puig, A. Pungeršek, M. See Kraljić, I., 2274.

Pungor, E., and Rokosinyi, H. E. Mechanism of Metanil yellow as an adsorption indicator, 1084.

- and **Thege, I. K.** Investigation of atomic emissions by flame photometry. I. Flame-photometric properties of silver salts, 3272.

and Zapp, E. Flame-photometric determination of small amounts of barium in substances containing barium sulphate, 389.

 See also Schulek, E., 3392.
 Punn, D. P. See Gaind, K. N., 3136.
 Puphal, K. W., Booman, G. L., and Rein, J. E. Determination of small amounts of chloride in high nickel - chromium - iron solutions, 1207. Purcel, A. E. Partition separation of carotenoids

by silica - methanol columns, 4337.

Purdy, M. B. See Good, M. L., 3733.
 Purdy, W. C. See DeThomas, A. V., 3974, and Stock, J. T., 1761.

Purkayastha, B. C., and Verneker, V. R. P. Indirect application of radioactive nuclei in analytical chemistry, 1784.

Purushottam, D. See Srinivasulu, K., 3303.

Purves, D. Determination of the lower fatty acids in silage by counter-current distribution, 4345.

Purves, H. D. See Adams, D. D., 2733. Püschel, R., and Grubitsch, H. Determination of phenol in gasworks effluents, 2290.

Pust, H. See Greene, S. A., 4058. Putney, B. F., and Calvo, R. Spectrophotometric determination of sterols in wool fat, 4226.

Puzanova, K. P. Spectrographic analysis of nickel in quartz, pyrites and chalcopyrites, 4135.

Pyatnitskii, I. V. Developments in the polarographic

analysis of inorganic compounds, 18. and Kostyshina, A. P. Polarographic deter-

mination of copper and bismuth in tartrate solution, 33.

Pyatnitskii, M. P., and Kiprach, L. I. Determination of organic acids by dispersion chromatography on silica gel. [1], 558; 11, 4181.

Pye. D. R. Identification of small quantities of nicotinic acid and its esters, 3402.

Qayyum, M. A. See Ashgar, A. G., 1715. Quackenbush, F. W. See Hivon, K. J., 2000. Queiser, J. A. See Friedel, R. A., 1062. Quick, R. H. Evaluation of quantitative sugar

analysis by paper chromatography, 866. Quin, L. D., Wilder, P., jun., and Hobbs, M. E. Chromatographic determination of steam-volatile acids in cigarette smoke, 3114.

Quiram, E. R., and Biller, W. F. Determination of trace quantities of hydrocarbons in the atmosphere, 4325.

R

Raadsveld, C. W. Complexometric determination of the calcium content of milk, 981.

Rabaey, M. See Wieme, R. J., 1413. Rabin, B. R. See Crook, E. M., 3463. Rabinowitz, J. C., and Pricer, W. E., Enzymic determination of formic acid, 2728.

Rabowsky, H. See Simon, A., 2424. Rabson, R., and Tolbert, N. E. Detection of α oxoglutaric acid and other keto acids on paper

chromatograms with ninhydrin, 3091. Radak, B. B., and Djukanović, B. L. Polarographic determination of hydrogen peroxide and ali-

phatic acids in mixtures, 1780. Radell, J., Hunt, P. D., Murray, E. C., and Burrows,

W. D. Spectroscopic detection of silicon in

organic silicon compounds, 4161.

Radmacher, W., and Schmitz, W. Analytical methods for fuel ash. I. Photometric determination of silicon, aluminium, iron, titanium and phosphorus, 3006; II. Determination of calcium, magnesium, sodium and potassium, 3006; III. Determination of copper, nickel, cobalt, zinc, manganese and vanadium, 3006.

Råducanu, G. See Petcov, R., 61.
Rådulescu, E. See Gheorghiu, C., 4060.
Radwan, Z. See Czakow, J., 2103.
Rådy, M. See Szekeres, L., 4111.
Raemaekers, R. Determination of tripoly- and

pyro-phosphate in tripolyphosphate, 75.

Rafailoff, R. See Bobtelsky, M., 1791.
Rafalowska, H., Kowalczyk, T., Ochab, S., and Paprocka, B. Paper-chromatographic separation of sulphonamides in medicinal preparations, 1345.

Raffaele, I. See Bückert, H., 15.

Rafols Rovira, J. M. Spectrophotometric determination of copper in sea salt, 789. Complexometric determination of calcium in sodium sulphate minerals, 2132.

Rafter, T. A. Sulphur isotopic variations in nature. Quantitative study of the reduction of barium sulphate by graphite for recovery of sulphide sulphur for sulphur isotopic measurements, 2184; III. Combustion characteristics of silver sulphide and lead sulphide for sulphur isotopic measurements, 2184.

Rahman, A. A. A. Use of paper chromatography with opium alkaloids and morphine derivatives, Separation of components of tincture of opium and of ampoules of Pantopon and Spasmalgin by means of paper chromatography, 1329. Rai, S. See Prakash, O., 2787.

chemistry.] Spectrographic analysis, 1082.
Rajnvajn, J. K. See Dizdar Z. J. 2002. Raiskii, S. M. [Reviews of Russian analytical

Rajnvajn, J. K. See Dizdar, Z. I., 803. Ralea, R., and Iorga, N. Colorimetric microdetermination of cobalt and copper with sodium 4-aminosalicylate, 4134.

Rall, H. T. See Thompson, C. J., 1284. Rall, T. W. See Berthet, J., 2730.

Ramaiah, N. A., and Vishnu. Spectrophotometric determination of calcium with the disodium salt of ethylenediaminetetra-acetic acid, 386. Spectrophotometric determination of copper with sodium versenate [EDTA, disodium salt], 787.

Ramirez-Muños, J. See Burriel-Marti, F., 1714, 2884, 2970, 3219, 4081.

Ramsay, H. A. Photometric determination of

esterase activity, 677.

Ramsay, W. N. M. Determination of the total

iron-binding capacity of serum, 619. Determination of iron in blood plasma or serum, 618. Rana, G. M. See Ashgar, A. G., 1715.

Randi, M. Direct titration of alkalinity in hypochlorite solutions, 2983.

Rankov, G., Popov, A., and Iochev, A. Determination of methanol in ethanol and fruit brandies by the method of Deniges, 3776. Determination of methanol in the presence of ethanol, water and other volatile substances, 3777.

Rao, B. S. K., Sarma, D. V. N., and Rao, B. S. V. R. Separation of tantalum from niobium and of the

mixed oxides from zirconia, 4072.

Rao, B. S. V. R. See Rao, B. S. K., 4072, Rao, M. N., 3324, Reddy, P. J., 4031, and Srinivasulu,

K., 3303. Rao, C. N. R. See Lieber, E., 3400. Rao, D. S. See Pillay, P. P., 3946.

Rao, D. V. R. Oxine complex of molybdenum,

Rao, G. G., and Mohan, P. J. Induced reactions in cerimetry. III. Iron^{II} as inductor, 516.

and Rao, N. V. Induced reactions in cerimetry. IV. Indigosulphonate [indigo carmine] as inductor, 342.

and Sastri, T. P. Phthalocyanines as oxidation reduction indicators. I. Use of copper phthalocyaninetetrasulphonic acid. Cerimetric determination of iron^{II} and ferrocyanide, 3740.

- See also Gowda, H. S., 3679, Rao, K. B., 450, 455, 1172, 1471, 1475, and Rao, G. J., 3641.

Rao, G. J., Rao, K. B., and Rao, G. G. Volumetric determination of mercury¹ with permanganate,

Rao, G. R. See Nayar, M. K., 4280.

Rao, K. B., Gowda, H. S., and Rao, G. G. Vanada-metry. Estimation of arsenite. Iodine monochloride and osmium tetroxide as catalysts, 1172.

Murthi, R. V. V. S., and Rao, G. G. Determination of thiocyanate. Iodine monochloride as catalyst, 1475. and Rao, G. G. Ferrimetry. II. Determination

Rao, K. B. (continued).
of hydroxylamine—copper sulphate as catalyst, 450; I. Determination of arsenite with ferric alum using osmium tetroxide and iodine chloride as catalysts, 455.

Rao, G. J., and Rao, G. G. Vanadametry.

Determination of thallium¹, 1471.

See also Gowda, H. S., 3679, and Rao, G. J., 3641

Rao, M. N., and Rao, B. S. V. R. Estimation of uranium. II. Spectrophotometry, 3324.

Rao, N. V. See Rao, G. G., 342.

Rao, N. P., and Rao, G. G. Volumetric determina-tion of uranium^{VI}. Photochemical reduction with ether, 3719.

 See also Rao, G. G., 3719.
 Rapaport, L. I. Determination of barbituric acid derivatives with iodine chloride, 688. Detection of barbituric acid derivatives, 1342. Photocolorimetric analysis of some pharmaceutical mixtures, 1672

Rapoport, F. M. Volumoisture in gases, 1779. Volumetric determination of

Khodak, P. A., and Shatrovskaya, T. I. Determination of moisture in gases containing ethylenic hydrocarbons, 1879.

Rappaport, F., Eichhorn, F., and Fischl, J. Con-struction and use of a small and inexpensive apparatus for filter-paper electrophoresis, 2457.

and Loew, M. Stable standard for the colorimetric determination of total protein, albumin, globulin and fibrinogen, 207.

Rapson, H. D. C. See Feinberg, J. G., 4368. Rase, H. F. See Stone, R. L., 801. Raspi, G. See Cozzi, D., 2960.

Rast, K. Melting-point determination to 0-1 of a 11, 327. degree.

Rastoix, M. Determination of nickel in zirconium

and Zircaloy, 4137.

Rathbun, J. C. See Robinson, H. M. C., 2727.

Ratner, A. P. See Starik, I. E., 469, 3727.

Ratovskaya, A. A. See Obolentsev, R. D., 587. Rauscher, K., and Voigt, J. Determination of

chlorogenic and caffeic acids, 2269. Ravel, R. Isolation and quantitative determination of synthetic anti-malarials by ion-exchange

techniques, 253. Ravitskaya, R. V. See Nazarenko, V. A., 3292. Raymond, S. Compact counter-current distribution apparatus, 4356.

Razina, I. S. See Przheval'skii, E. S., 537.
Razumova, V. P. Detection of cadmium by means of p-nitrophenyldiazoaminoazobenzene (cadion),

See also Nadezhina, L. S., 2938.

Read, E. B., Hicks, P. R., Lawler, H. M., Pollock, E., Read, H. M., and Zopatti, L. Chemical analysis of copper in Zircaloy, silicon in uranium - silicon alloys and niobium in uranium - niobium alloys, 3262.

Read, H. M. See Read, E. B., 3262. Read, W. H., Hughes, J. T., and Smith, R. J. Estimation of parathion residues in the presence of azobenzene, 2029.

Reardon, J. B. See Froesch, E. R., 3088.

Rearick, D. A. See Frierson, W. J., 3002. Rebelein, H. Distinction of naturally pure from sweetened wines and determination of natural alcohol content, 700. Simplified process for determination of glycerol and butane-1:3-diol in wine, 701.

Rechenberger, J. Identification of nucleic acids in blood proteins, 2745.

Reddaway, R. J. B. Determination of vicinal glycols by oxidation with periodate in nonaqueous media, 123.

Reddy, P. J., Sarma, D. V. N., and Rao, B. S. V. R. Separation of lanthanum from other cerite earths excluding cerium, 4031.

Redeuilh, M.-J. See Baraud, J., 654.
Redfearn, M. W. See Cummings, W. G., 3225.
Redfearn, N. T. See Weaver, E. R., 3173.
Redfern, J. P. See Lukaszewski, G. M., 72.
Redinger, L. See Rieche, A., 3396.
Reeber, H. E. See Young, J. C., 4377.

Reed, E. See Luedemann, G., 164.
Reed, G. W. See Hamaguchi, H., 3723.
Reed, J. F. Determination of arsenic in selenium,

4083.

Reed, R. H. See Stagg, H. E., 143. Reed, T. M., III. Gas-liquid partition chromatography of fluorocarbons, 2230.

Reeder, W. See Russ, J. J., 906. Rees, M. W. Studies on the amide and C-terminal residues in proteins. IV. Separation and quantitative determination of β-amino alcohols, 3465.

— See also **Chibnall, A. C., 3465**. **Rees, W. R.,** and **Reynolds, T.** Solvent for the paperchromatographic separation of glucose and sorbitol, 4173.

Reese, R. M. See Dibeler, V. H., 2867.

Reeskamp, C. J. See Brederode, H. van, 985. Rehm, C. R., and Mader, W. J. Colorimetric assay for chlorobutanol [trichloro-tert.-butyl alcohol],

Reich, H. F., and Grabbe, F. Photometric determination of alumina in refractory materials,

Reichelt, J. Paper chromatography of alkaloids. III. Identification and semi-quantitative determination of (-)-hyoscine in the presence of morphine and ethylmorphine, 2362.

Reichert, R. Determination of magnesium in iron,

See also Gamsjäger, H., 2536.

Reichherzer, R. Chemical investigation of aqueous solutions of macromolecular substances, 2299. Reid, A. F. Potentiometric micro-determination of

periodate by arsenite - iodine titration, 3734. Reid, B. L. See Murthy, V. M. R., 3914.

Reilley, C. N. [Review of industrial applications of analysis, control and instrumentation. Potentio-

metric titrations, 2867.

and Schmid, R. W. Chelometric titrations with potentiometric end-point detection. Mercury as

pM indicator electrode, 3580.

Schmid, R. W., and Lamson, D. W. Chelometric titrations of metal ions with potentiometric end-Ethylenediaminetetra-acetic point detection. acid, 3258.

and Sheldon, M. V. Selective chelometric titrations of metal ions with triethylenetetramine, 2511.

- See also Golby, R. L., 2312, Sadek, F. S., 1728, and Schmid, R. W., 2493.

Reilly, C. A. [Review of industrial applications of analysis, control and instrumentation.] Nuclear magnetic resonance spectrometry, 2867

Reilly, M. L. See Glasgow, A. R., jun., 568. Reilly, W. A. See Helwig, H. L., 610.

Reimers, H. Re-conversion of potassium tetraphenylboron, 3242.

See also Gagliardi, E., 2105, 3609. Rein, J. E. See Booman, G. L., 2094, Dykes, F. W., 1205, Maeck, W. J., 3718, Paige, B. E., 88, 3334, Puphal, K. W., 1207, and Shank, R. C., 2474. Reinart, A., and Nesbitt, J. M. Modification of the method of Saffran and Denstedt for citrate in milk, 3156.

Reinefeld, E. See Schneider, F., 1358. Reinhart, J. H., Brown, J. W., and Weintraub, R. L. Apparatus for preparation of banded paper chromatograms, 4362.

Reis, N. V. Micro-determination of thallium in

urine, blood and facces, 4229.
Reiser, P. L. See Sverak, J., 3374, 3660.
Reiser, R. See Sorrels, M. F., 1994.

Reishakhrit, L. S., and Naumova, A. M. Polarographic determination of zinc and manganese in the presence of ferrous iron. II, 3639.

and Sukhobokova, N. S. Amperometric titration of gold with quinol, 377.

See also Labkovskaya, D. B., 3622.

Reith, H. See Boëtius, M., 3768.

Relyveld, P. Identification of barbiturates by paper chromatography, 968.

Remky, H. Photometric evaluation of non-transparent paper electropherograms, 14.

Remport-Horvath, Z. See Körös, E., 2546. Rengstorff, G. W. P. See Heffelfinger, R. E., 1857. Renold, A. E. See Froesch, E. R., 3088.

Rentschler, H., and Tanner, H. Chemical differentiation of natural and sweetened wines, 4315.

Tanner, H., and Dejung, P. Complexometric determination of sugar in sweetened and fer-mented drinks by the Potterat - Eschmann method, 2395.

Repke, K. Chemical determination of digitoxin in tissues and excreta, 3081.

Resnik, F. E., Harrow, L. S., Holmes, J. C., Bill, M. E., and Greene, F. L. Infra-red micro-techniques for identification of carbohydrates and other organic compounds, 1549.

Ressler, N., and Jacobson, S. D. Effect of buffer on fluid film electrophoresis, 2349.

— See also Zak, B., 3428. Reutenauer, G. See Audran, R., 1038. Reuter, A. See Johne, K., 2706.

Reuther, K.-H. See Bayer, E., 550, 2335.

Revin, J. L., Meyer, R. J., and Higuchi, T. Chromatographic analysis of mixtures of mono-, diand tri-stearin containing mineral oil, 1377.

Rexach-M. de Lizarduy, M. L. See Burriel-Marti,

F., 2970, 4081.

Rexová, L. See Markovič, O., 2361.

Reynolds, H. See Lichtenstein, H., 996. Reynolds, S. A. See Moore, F. L., 1178.

Reynolds, T. See Rees, W. R., 4173.

Rice, E. W. International survey of clinical chemistry procedures, 3422.

and Lukasiewicz, D. B. Interference of bromide in the Zak ferric chloride - sulphuric acid cholesterol method, and means of eliminating this interference, 670.

Richard, J. See Le Peintre, M., 2007.

Richard, M. J. See Fritz, J. S., 1260. Richmond, M. S., Baldwin, J. R., and Maienthal, E. J. Chemical analysis of binary alloys of platinum and uranium, 1235.

Richter, J. Photometric estimation of p-aminobenzoic acid in presence of procaine hydrochloride in drug preparations. II, 237.

and Kny, L. Photometric determination of sulphurous acid in foods and drugs, 2402.

Richterich, R. Quantitative estimation of barbiturates in body fluids by ultra-violet spectrophotometry, 3438.

Rickard, J. A. Mass-spectrometer ionisation cham-

ber, 2866.

Riddick, J. A. [Review of industrial applications of analysis, control and instrumentation.] Acid-base titrations in non-aqueous solvents, 2867. See also Jones, L. R., 124.

Ridge, J. W. Semi-micro respirometer, 2050.

Rieche, A., and Redinger, L. Determination of polyfunctional phenols with amidopyrine, 3396. Riedel, K. Analysis of nickel alloys for oxide cathodes. IV. Determination of copper, 2526; V. Determination of iron, 2635.

Rieder, H. P. Determination of benzoic and hip-puric acids by differential spectrophotometry,

1615.

Rieman, W., III. See Breyer, A., 4179, Sargent, R., 1883, 2246, 4171, Schwab, H., 1047, and

Sherma, J., 4198. Riemersma, J. C., and Stoutjesdijk, W. Paper chromatography of sterols in animal and vegetable fats, 4321.

Riesz, P. See Wilzbach, K. E., 2089. Rikman, É. P. See Mirkin, I. L., 2639. Riley, J. P. Simultaneous determination of water and carbon dioxide in rocks and minerals, 2101.

- and Sinhaseni, P. Determination of ammonia and total ionic inorganic nitrogen in sea water,

See also Burton, J. D., 3922, Culkin, F., 2916, 3921, and Mullin, J. B., 1388.

Rimington, C., Krol, S., and Tooth, B. Detection and determination of porphobilinogen in urine, 1606.

Rindi, G. Chromatographic separation of vitamin-A alcohol, acetate and palmitate, 4322.

Ringbom, A., Siitonen, S., and Saxén, B. The Felli .

Ringbom, A., Siltonen, S., and Saxen, B. The February EDTA - H₂O₂ complex and its analytical use, 515. Ripley, L. G. See Bright, N. F. H., 1192. Risk, J. B. See Strickland, J. D. H., 82. Ritter, F. J., and Hartel, J. Qualitative, quantitative and preparative chromatography of steroids on fully acetylated paper, 4265.

Ritter, H., and Gude, F. Simple method for deter-

mining dicyclopentadiene, 2265.

Riva. B. Indirect volumetric determination of sulphate ion with ethylenediaminetetra-acetic acid, 475. Quantitative determination of potassium in sodium chloride with sodium tetraphenyl-

boron, 3267.

Roberts, E., and Rouser, G. Spectrophotometric assay for reaction of N-ethylmaleimide with

sulphydryl [thiol] groups, 4165.

Roberts, H. R. Quantitative determination of lactose and monoses in lactose hydrolysates. Horizontal paper-chromatographic method, 867.

- and **Bucek**, \mathbf{W}_{\bullet} . Procedure for separating C_2 to C_6 volatile fatty acids by horizontal paper chromatography at elevated temperatures, 876.

- and Kolor, M. G. Accuracy of quantitative paper chromatography in amino-acid determination using direct photometry, 1625. Separation of amino acids on paper chromatograms, 1626. Quantitative determination of hydroxyproline by paper chromatography, 4255.

— See also Kolor, M. G., 652.

Roberts, J. B. Adsorption chromatography on

silica-treated paper, 3947.
Roberts, J. O. See Lovett, J. E., 496.
Roberts, M. W. See Ashby, R. O., 602.
Roberts, M. W. See Fennell, T. R. F. W., 1543.
Roberts, R. M., and Madison, J. J. Greaseless gasmeasuring receiver for Toepler pump, 1027.

Roberts, R. N. Preparation of high-purity calcium oxide, 3243.

Robertson, C. M. Determination of zinc, calcium and magnesium in rubber vulcanisates, 1304.

Robertson, G. I., Jett, L. M., and Dorfman, L. Micro-determination of carbon and hydrogen by a rapid combustion procedure, 2224.

Robinson, B. K. Apparatus for semi-micro potentiometric titrations, 2068

Robinson, C. F., and Sharkey, A. G., jun. Rhenium as an electron emitter in mass spectrometry, 4411.

Robinson, H. M. C., and Rathbun, J. C. Determination of galactose in small amounts of blood, 2727. Robinson, J. W., and West, P. W. Selective test

for the detection of orthophosphate, 808.

Robinson, P. See Nowaczynski, W., 1324. Robinson, R. J. See Bovee, H. H., 817, and Boyle,

W. G., jun., 3259. Robnett, O. See Kingsley, G. R., 3074.

Roborgh, J. R. See Mulder, F. J., 998. Robson, J. See Banks, J., 2418. Robson, W. See Mayes, P. A., 1607. Rocchi, B., and Vittorelli, F. Spectrophotometric determination in u.v. of cetyltrimethylammonium toluene-p-sulphonate in presence of interfering excipients, 3510.

Rocchiccioli, C. Distribution of ions in exchange columns, 3252.

Rochelmeyer, H., Stahl, E., and Patani, A. Analysis II. of ergot alkaloids. Confirmation and separation of hydrogenated alkaloids, 3495.

Rochow, T. G., and Botty, M. C. [Review of in-dustrial applications of analysis, control and instrumentation.] Electron microscopy, 2867. Rockenbauer, W., and Brandenstein, M.

graphic determination of selenium, 3705. See also Schroll, E., 1435.

Rodden, C. J. See Bertram, H. W., 2619. Roddie, I. C., Shepherd, J. T., and Whelan, R. F. Spectrophotometric estimation of blood oxygen saturation content, and capacity, 613.

Roden, H. Controlled moisture-condensation apparatus for evaluation of rust-preventive oils, 736. Rodríguez Pérez, A. Quantitative spectrochemical precision method without internal standard.

Application to iron, 1856.

Rodríguez Señas, J. See Burriel-Martí, F., 1224.

Rodwell, V. W. See Towne, J. C., 195. Roe, J. H. See Smith, B. W., 675.

Roeder, W. H. See Adelson, E., 3455.

Rogers, C. G. See McLaughlan, J. M., 3534.

Rogers, L. B. See Hercules, D. M., 1912, Linde, H. W., 4055, Peattie, C. G., 1152, Przybylowicz, E. P., 1802, 4076, and Schwing, J. P., 1077.

Rohrlich, M. See Bruckner, G., 1985.

Roig, J. See Becart, M., 1435.

Roitrub, B. A. See Kirichinskii, B. R., 4383.

Rokosinyi, H. E. See Pungor, E., 1084.

Rokosz, A. Sulphide method of cadmium determination, 1136.

Rokushima, T. See Jono, W., 814.

Roman, L. See Popper, E., 2548.
Roman, W. See Coles, M., 2324.
Romand, J., Balloffet, G., and Vodar, B. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] "Sliding" spark in a vacuum as

a source for emission spectrochemical analysis,

Romanova, E. V. See Goryushina, V. G., 1484. Romanova, L. V. See Maslennikov, B. M., 2552. Romijn, H. M. Microchemical detection of barb-

iturates with copper - ammonia reagent, 234.

Romita, R. See Guerreschi, L., 2555.
Romováček, J., and Bednář, J. Determination of thiols in mixtures of carbohydrates and in gas, 3389.

Rönnebeck, H. Determination of crude fibre in grain products. Comparison of the gravimetric procedure of Scharrer and Kürschner with a rapid titrimetric method, 2388. Determination of the acidity of bread, 2779.

Ronzio, A. R. Analysis of formaldehyde and

glyoxylic acid, 874.

Rooney, R. C. Determination of antimony in cast iron, 1525. Determination of trace amounts of lead and bismuth in cast iron, 2215.

— See also Clarke, W. E., 1221.

Rooney, T. E. See Garside, J. E., 1521.

Root, M. J., and Maury, M. J. Analysis of volatile aerosol constituents. 1, 153.

Rooth, G., Sjöstedt, S., and Caligara, F. Bloodless determination of arterial-oxygen tension by polarography, 3072.

Rose, G. A. Determination of the ionised and ultrafilterable calcium of normal human plasma, 607. Rose, H. E. Mean particle size of fine black powders

by the measurement of reflectivity, 3. Measuring size distribution of powders, 742.

Roseira, A. N. Paper-chromatographic analysis of the naphthenic syntans, 1302.

See also Goebel, E. F., 1832.

Roselius, L. See Cremer, E., 3597.
Rosell, R. A. See Feigl, F., 2626, 3387.
Rosen, M. J. Separation of non-ionic surface-active

agents from mixtures with anionics by batch ion-exchange, 1292.

Rosen, P. See Soloway, S., 1535.
Rosenblatt, D. H. See Ellin, R. I., 3141.
Rosenblum, C. Principles of isotope dilution assays,

Rosenfeld, B. Microbiological micro-determination of ethanol and butanol in mixtures, 860.

Rosenkrantz, H., Potvin, P., and Skogstrom, P. Quantitative sample dispersion in potassium bromide for infra-red analysis of steroids, 3472. Rosenthal, H. L., and Jud, L. Micro-estimation of serum cholesterol and esters on finger-tip blood, 3473.

Pfluke, M. L., and Buscaglia, S. Stable iron reagent for the determination of cholesterol, 666. Rosenthal, I., Frisone, G. J., and Gunther, F. A. Colorimetric micro-determination of the acaricide 4:4'-dichloro-\alpha-(trichloromethyl)benzhydrol (FW-293) [2:2:2-trichloro-1:1-di-(p-chlorophen-yl)ethanol] [Kelthane], 1723.

Frisone, G. J., and Lacoste, R. J. Polarographic of 1:1:1:2-tetrachloro-2:2-di-(pbehaviour

chlorophenyl)ethane, 1396.

- Gordon, C. F., Stanley, E. L., and Perlman, M. H. Micro-determination of the fungicide dinitro-caprylphenyl crotonate [2-(1-methylheptyl)-4:6dinitrophenyl crotonate [Karathane] in food crops and animal tissues, 3192.

Roshchina, R. V. See Korenman, I. M., 1148. Rosholt, J. N., jun. Radiochemical determination of the sources of natural radioactivity, 763.

Rosie, D. M., and Grob, R. L. Thermal conductivity behaviour. Importance in quantitative gas chromatography, 1044.

Rosin, H. See Lilie, H., 4123. Rosin, J., and Williams, C. J. Specific rotation and temperature coefficient, 4273.

Rösner, H. See Kühnhanss, G., 1283, 2279. Ross, D. A., and Speakman, J. B. Gravimetric estimation of medulla in wool, 1930.

Ross, G., Weinstein, I. B., and Kabakow, B. Influence of phenothiazine and some of its derivatives on the determination of 5-hydroxyindolylacetic acid in urine, 3448.

Ross, G. S. See Glasgow, A. R., jun., 568.

Ross, L. E. See Larsen, R. P., 3003. Ross, R. E. See Brealey, L., 2061. Ross, W. J. See White, J. C., 3708. Rossi, G. V. See Goldberg, M. E., 4245. Rossini, F. D. See Mair, B. J., 2703. Rossmassler, W. R. See Cline, R. W., 4084. Roszkowski, E. S. See Bertram, H. W., 2619.

Rota, E. Hydrolysis, extraction and purification of metabolic oestrogenic products present in urine from cows, 3865. Roth, E. See Ceccaldi, M., 1435, and Gal. E. M.,

1657

Roth, H., and Beck, W. Determination of dithiocarbamate and thiuram disulphide groups, 2257. and Schuster, P. Determination of peroxide groups (active oxygen), 2227. Determination of acid amides, 2253. Röth, K. Paper chromatography in the soap field,

1576.

Rothe, M., and Voigt, I. Nephelometric determination of small amounts of aldehydes, 2236.

Roubal, J., and Zdražil, J. Polarographic determination of m-dinitrobenzene in mixtures with 1-chloro-2: 4-dinitrobenzene, 142.

Rouse, R. D. See Adams, F., 1391. Rouser, G. See Roberts, E., 4165. Rousseau, J. E. See Dicks, M. W., 3169.

Roux, D. G. Ultra-violet photometric tannin estimations in relation to wattle-extract utilisation, 1301. Estimation of tannins in black wattle barks and commercial "mimosa" extracts. II. Statistical comparison of the official hide-powder (shake) and photometric methods of tannin analysis, 3068; III. Critical examination of the official hide-powder method, 3068.

Rovirs, J. M. R. See Rafols Rovirs, J. M. Rowell, M. See Wish, L., 1198.
Rowland, F. S., and Wolfgang, R. L. Assay and study of short-lived radionuclides by a recoil technique, 4407.

— See also Wolfgang, R. L., 3373. Rowland, J. F. See Bright, N. F. H., 1192.

Roy, D. K. See Bhattacharya, K. R., 1635. Roy, S. C. See Mitra, S. N., 993. Rozenblyum, E. N. See Ten'kovtsev, V. V., 2939. Rozina, A. M., Dankova, N. M., Amitina, N. I., and Rutshtein, E. M. Photometric determination of cyanide in coal gas, 3805.

Rozmanith, J. See Szonntagh, J., 1469.

Rubin, G. See Owades, J. L., 988, 3525. Rubin, H. National Conference on Instrumental Methods of Analysis. Chicago, 1957.] Nuclear magnetic resonance-a new tool for moisture analysis, 1725.

Rubin, S., Passell, T. O., and Bailey, L. E. [National Conference on Instrumental Methods of Analysis. Chicago, 1957.] Surface analysis with a 2-million-

volt Van de Graaff, 1725.

Rubtsova, V. P. See Gluzman, M. Kh., 1334. Rudnev, N. A., and Mazur, A. A. Mechanism of co-precipitation of cations with sulphides by means of radioactive isotopes, 1107.

See also Alimarin, I. P., 1082.

Rudoi, B. Z. See Belogorskaya, N. V., 478. Rüedi, W. F. See Monnier, D., 938. Ruegg, F. W. See Halpern, C., 3405. Ruggieri, R. Determination of vitamin B_3 [riboflavine] in the presence of vitamin B_{12} and haematoporphyrin, 3533.

Ruhl, H. D. See Herscher, L. W., 3571.
Ruiz, A. S. See Santos Ruiz, A.
Ruiz, I. S. L. See Lascano Ruiz, I. S.
Rulfs, C. L., De, A. K., and Elving, P. J. Electrodeposition of uranium at the microgram level, 89.

Runge, E. F. See Bryan, F. R., 317. Runge, F., Behrends, J., and Ernst, A. Di(arylsulphonyl)amines as primary titrimetric standards, 2082.

— See also Fijolka, P., 596. Rupe, C. O. See Free, A. H., 1602. Rusanov, A. K., and Khitrov, V. G. Spectrographic analysis of ores by introducing the powder into the arc in a stream of air, 3760.

See also Alekseeva, V. M., 380, Polyakov, P. M., 2532, and Solodovnik, S. M., 419.
 Ruscior, C. See Mihul, C., 1435.

Rushton, B. J., and Nicholls, G. D. Spectrographic scheme for the determination of aluminium. titanium, iron, calcium, magnesium and manga-

nese in silicates, 1156.

Russ, J. J., and Reeder, W. Determination of tetraethyl-lead in gasoline, 906.

Russell, D. S., and Bednas, M. E. Transfer cell for gas chromatography, 1043.

Russell, E. R. Determination of microgram amounts of zirconium in uranyl nitrate solutions, 443. Russell, G., and Hart, P. J. Determination of copper

in gelatin, 3050.

Russell, R. See Luedemann, G., 164. Rüssmann, H.-H. See Hegemann, F., 1435.

Rusznák, I., Králik, I., and Fukker, K. Polaro-graphic determination of the methylene blue number of regenerated celluloses of high carboxyl content by the suppression of oxygen maxima, 1550.

Ruthven, C. R. J. See Lathe, G. H., 3834. Rutshtein, E. M. See Rozina, A. M., 3805. Ruttloff, H., and Behnke, U. Contributions to the

technique for the determination of citric acid, 2240

Rutz, W. D. See Witnah, C. H., 1362. Ružička, E. Resazurin ethyl ether and resorufin ethyl ether as stannimetric redox indicators,

Růžička, J. See Číhalík, J., 2142. Ružičková, J. See Machovičová, F., 1965. Ryakhova, L. M. See Pshenitsýn, N. K., 2656. Ryazanov, I. P., and Milin, V. P. Quantitative

determination of zirconium by ethanolamine, 66. Ryba, O., Cířka, J., Ježková, D., Malát, M., and Suk, V. Chemical indicators. IV. Complexes of catechol violet with ter- and quadri-valent

metals, 783. Rybář, D., and Skřivan, V. Determination of sulphonamides by polarographic titration, 249.

Rybin, R. See Sedláček, B., 1695.

Ryce, S. A., and Bryce, W. A. Ionisation gauge

detector for gas chromatography, 2828.

- Kebarle, P., and Bryce, W. A. Thermal conductivity cell for gas chromatography, 1045.

Rydberg, J. Determination of the absolute activity of solid tritium samples, 3602.

Ryhage, R. See Hallgren, B., 1698.

Rynasiewicz, J., and Consalvo, V. F. Chemical determination of boron in 7% uranium - zirconium and 7% uranium - Zircaloy, 1145.

 See also Consalvo, V. F., 1234.
 Rÿss, I. G., and Nilus, É. L. Fluoroboric acid in quantitative analysis. I. Gravimetric determination of alkali metals in borates, halides, nitrates and nitrites, 404.

Ryvolová, A. Polarographic and oscillographic differentiation of esters of the phthalic acids, 141. Rÿzhova, A. P. Determination of riboflavine in urine, 4237.

Sabon, F. See Monnet, R., 4304. S.A.C. See Society for Analytical Chemistry.

Sachko, A. P. See Bannykh, Z. S., 3996. Sacks, L. E., and Pence, J. W. Characterisation and purification of subtilin by paper electrophoresis, 1674.

Sadek, F. See Flaschka, H., 445. Sadek, F. S., and Reilley, C. N. Ultra-micro chelometric titrations with potentiometric end-point detection, 1728.

Sadler, P. W. See O'Sullivan, D. G., 2088.

Šafařík, L. Titrations in non-aqueous media in pharmaceutical analysis. II. Semi-micro determination of amidopyrine in compound analgesics, 2376; III. Determination of arecoline-acetarsol,

and **Spinková**, **V.** Titrations in non-aqueous nedia in pharmaceutical analysis. IV. Determedia in pharmaceutical analysis. mination of p-4-amino-3-isoxazolidone (cycloserine), 3890.

See also Blažek, J., 2375.

Safina, G. Chromatographic determination and identification of preservatives in preserved foods

and citrus juices, 1990. Safranski, L. W. See Bennett, C. E., 3564, Nogare, S. D., 3565, and Pickhardt, W. P., 4155.
Sager, O. S., and Horwitz, W. Chemical determina-

tion of histamine in canned tuna fish, 980.

Ságner, Z. See Matrka, M., 896, 3809. Sagortschew, B., Liptschinsky, A., Schejtanow, C., and Jordanow, B. Internal electrolysis method. II. Determination of zinc, 4014.

Sahashi, Y. See Sakurai, H., 1795, 4290. Sahota, S. S. See Singh, Balwant, 2245, 4187. Saier, E. L., and Hughes, R. H. Determination of oxygenated materials as group types by infra-red absorption, 3015.

Saifer, A., Gerstenfeld, S., and Zymaris, M. C. Microchemical analysis for the clinical laboratory. 3818

Saint, H. C. J. Micro-procedure for the electrolytic determination of lead in copper-base alloys, 2153.

St. André, A. F. See Korzun, B. P., 3496.

St. Lorant, I. Colorimetric micro-estimation of

sugar in blood and biological fluids, 624.

Saito, C. See Ishibashi, Masayoshi, 4391.
Saito, M. See Horiuchi, Y., 367.
Saito, T. See Sugihara, K., 3738.
Sakaguchi, T., and Taguchi, K. Colorimetric determination of tetracylines with a thorium reagent. III. Determination of tetracycline, 3502.

Taguchi, K., and Suzuki, A. Colorimetric determination of tetracyclines with a thorium reagent. II. Determination of oxytetracycline, 3502.

Sakai, E. See Iritani, N., 400. Sakai, S., and Fujishiro, Y. Emulsion calibration in

quantitative spectrographic analysis. I. Stepped sector and two-step sector methods, 2445.

Sakamaki, I., Ishikawa, H., and Nakamura, R. Volumetric determination of tetranitromethane in concentrated nitric acid, 2684.

and Yuki, S. Continuous coulometric determination of oxygen in a gas sample, 3698.

Sakata, S. See Sezaki, H., 1974. Sakaue, T., Aoki, S., Dehara, M., and Nakamura, N. Analysis of commercial Tobias acid, 593.

Sakihama, A. Micro-determination of sulphur in iron and steel. I. Photometric determination by the potassium dichromate - diphenylcarbazide method, 1825.

Sakuma, Y. See Tanaka, N., 3232. Sakunov, V. I. See Tkachenko, N. S., 4067.

Sakurai, H., Kimura, T., and Seno, S. Determination of each component from a mixture of pyrazinamide and isoniazid. I. Determination of

pyrazinamide; 1975.

and Sahashi, Y. Determination of each component from a mixture of pyrazinamide and isoniazid. II. Determination of isoniazid, 1975. Non-aqueous titration of drugs. I. Determination of lidocaine [lignocaine] hydrochloride injection, 4290.

- See also Takahashi, Takeo, 4386.

Salaria, G. B. S. Thio salts in analysis. V. Scheme of qualitative analysis, 6; II. Estimations based on decomposition of thio salts. E. Determination of antimony in antimonate, 2174. Separations involving sulphides. III. Separation of rhenium and antimony from mercury, 2207; IV. Separation of platinum, gold, selenium, arsenic, rhenium and molybdenum from lead, 2207.

Salaün. A. Arrangement for agitation, 3938.

Salazkina, S. S. See Solov'ev, L. T., 649. Salmerón, P. See Sancho, J., 270.

Salmon, J. E. See Genge, J. A. R., 2924, and

Lukaszewski, G. M., 72.

Salmon, L. Determination of sodium and potassium in a sample of dunite by radioactivation analysis, 1449. Gamma spectroscopy in radio-activation analysis. III. Determination of cobalt in iron using gamma-gamma coincidence measurements, 3347.

See also Irving, H., 412, and Smales, A. A., 800. Salo, T., and Suomalainen, H. Determination of

diacetyl in raw spirit, 2399.

Salomon, G. Infra-red spectroscopy, 2505. Salomon, R. E., and Livingston, E. M. Micro-determination of iron in cereals by direct extraction, 3513.

Salpeter, E. W. See Junkes, J., 15. Salteri, F., Cirla, E., and Fasoli, A. Electromigration on filter-paper of uric acid from serum and

synovial fluid, 3441.

Salvesen, B. Determination of purine derivatives in non-aqueous medium. I, 3115; II. Potentiometric and visual titration of theobromine and of diprophylline (dihydroxypropyltheophylline). Differential titration of the constituents of Diuretin (theobromine and sodium salicylate),

Salyer, D. Cobalt-60 as a radiotracer in the analytical chemistry of cobalt, 2216.

Samachson, J., Slovik, N., and Sobel, A. E. Microdetermination of fluorine, 1513.

Sampedro Pieñiro, A., and Asensi Álvarez-Arenas, E. Spectrochemical analysis of low-friction alloys, 2221.

Sanahuja, J. C., and Seoane, D. Colorimetric procedure for the determination of lysine, 3857.

Sanborn, E. N. See Thomas, J. F., 1705. Sánchez, F. G. See González Sánchez, F.

Sancho, J., and Salmerón, P. Reversible and irreversible processes at the dropping electrode. V. Thiamine, 270.

Sanda, V. See Davidek, J., 1703, and Tuma, H., 3966. Sanders, W. F., and Cramer, C. H. Photometric determination of silicon in steel, 524.

Sanderson, H. P. See Katz, M., 4324. Sanderson, W. W., and Hanson, A. M. Colorimetric determination of tin in industrial wastes and

receiving waters, 1006.

Sandler, S., and Chung, Y.-H. Polarographic determination of hydrogen peroxide, formaldehyde and acetaldehyde in mixtures, 4177.

Sandman, R. P., and Miller, O. N. Metabolism of lactaldehyde. I. Separation and determination of lactaldehyde and related 3-carbon compounds.

Sándor, Z. von, and Péter, A. Detection and determination of cows' milk in fresh sheep's-milk

cheese, 982.

Sandri, G. C. Volumetric determination of and microchemical differentiation between mono- and di-hydrazinophthalazines, 1351. Application of bromoauric acid to the microchemical identification of alkaloids and organic bases, 3875. Bromothallic acid as reagent for the identification of organic bases, 3587.

Sano, H. See Kimura, K., 2601. Sansoni, B., and Baumgartner, L. Separation of phosphates by paper electrophoresis. V. Highvoltage paper electrophoresis of condensed phosphates and metaphosphates, 2168.

Sant. B. R. Electrometric end-points in the argentimetric determination of cerium, 1472. Iodimetric determination of ceriumIV by arsenous oxide, 2143. Ferricyanide - iodimetric determination of hydroxylamine, 2162. Spot test for hydrazine, 3304.

and Joshi, M. K. p-Cresotic acid-a micro-

reagent for uranium, 2612.
- and Varkey, E. T. Gravimetric estimation of bismuth as bismuthyl dichromate, 3312. Determination of bismuth by selenous acid, 3313.

— See also **Pendse**, **G. P.**, 3625.

Santi, **R.**, and **Bazzi**, **B.** Determination of residues of OO-dimethyl S-methylcarbamoylmethyl phosphorodithioate on cherries treated with it and products based on such insecticides, 3191.

Santos Ruiz, A. See Moreno Calvo, J., 3855. Saper, R. P. See Ivković, V., 2080, and Lecco, A., 2165. Saraswat, H. C. Volumetric estimation of cobalt by potassium ferrocyanide, 3346.

Sargent, R. N. Separation and determination of

glycols, 861.

and Rieman, W., III. Chromatographic separation of organic compounds, 1883. Saltingout chromatography. II. Amines, 2246; III. Aliphatic and polyglycol ethers, carboxylic acids, 4171

Sarkanen, K. See Gross, S. K., 3190.

Sarma, D. V. N. See Reddy, P. J., 4031, and Rao. B. S. K., 4072. Sarma, K. P. S. See Sen Sarma, K. P.

Sarma, P. L. See West, P. W., 451. Sarson, R. D. Analysis of explosives by nonaqueous titration, 3421.

Saršúnová, M. Determination of cyanides in bitter almond water, 256. Complexometric determination of calcium carbonate in compound sulphur ointments, 257.

Sarudi, I. Carrez clearing reagent in polarimetric determination of starch, 978.

Sasaki, N. See Kimura, T., 4204, 4298.
Sasin, G. S. See Sasin, R., 2247.
Sasin, R., Butte, W. A., jun., Borror, A. L., and Sasin, G. S. Benzamides, p-nitrobenzamides,

benzenesulphonamides, toluene-p-sulphonamides and acetamides as identification derivatives of long-chain amines, 2247.
Sass, S., Kaufman, J. J., Cardenas, A. A., and

Martin, J. J. Colorimetric estimation of tertiary

and quaternary amines, 3026.

Ludemann, W. D., Witten, B., Fischer, V., Sisti, A. J., and Miller, J. I. Colorimetric determination of organophosphorus compounds and acylating agents. Use of dissonitrosoacetone reagent, 890.

Sastri, T. P. See Rao, G. G., 3740. Sastry, L. V. L. Estimation of organic sulphur in asafoetida, 3128.

See also Desikachar, H. S. R., 1365.

Sastry, M. N. See Satyanarayanamurthy, R. V. V.,

Sasuga, H. Determination of total hydrocyanic

acid in acetone cyanohydrin, 875.

Sato, H. Polarographic studies of organic com-I. Polarography of musk ambrette, musk ketone and musk xylene, 591; II. Polarography of piperine, 705; III. Polarograms of vanillin and isovanillin, 705; IV. Polarogram of phenylmercury acetate, 693; V. Polarography of curcumin, 2714; VI. Polarography of fragrant aldehydes, 2714.

Sato, I., Hankinson, C. L., Gould, I. A., and Armstrong, T. V. Factors affecting the freezing-

point of milk, 697.

Sato, Kazuo. See Aihara, T., 3121. Sato, Keiko. See Konō, T., 3011. Sato, Ken. See Kamada, H., 525. Sato, R. See Kanazawa, J., 3036. Sato, Tokuro. See Fukuyama, T., 2412.

Sato, Torao, and Ikegami, A. Routine analysis of limestone, 2905

Satoh, K., and Price, J. M. Fluorimetric determination of kynurenic acid and xanthurenic acid in human urine, 3843.

Satsuka, A. See Nakano, K., 2859.

Satyanarayana, B. See Bhargava, P. N., 3241. Satyanarayanamurthy, R. V. V., and Sastry, M. N. Iodimetric determination of iodate, bromate and dichromate in the presence of copper, 510.

Sauer, K. H. See Fehér, F., 81. Sauer, R. W., Washall, T. A., and Melpolder, F. W. Paraffin - cycloparaffin separations by displacement partition chromatography, 898.

Sauman, Z. Flame-photometric determination of sodium and potassium in silicates, 2107.

Sauvenier, G., and Duyckaerts, G. Polarographic estimation of germanium in minerals and concentrates, 431.

Savage, R. I. See Patterson, S. J., 2386.
Savariar, C. P. See Majumdar, A. K., 3716.
Savinov, B. G., Mal'nev, A. F., Svishchuk, A. A., and Grinberg, F. L. Infra-red absorption for characterising the quality of phytol, 721.

Savitskaya, E. M. See Bruns, B. P., 684. Savoini, F. See Valori, P., 713, 1382. Sawabe, S. See Oda, N., 2944.

Sawer, D. T., and Farrington, P. S. High-frequency titration of lead, 1158.

Sawicki, E. Colour test for selenium, 820. Benzylidene chloride test for hetero substituted aromatic compounds, 2696. Piperonylidene chloride test for aromatic acylamines, 4203.

- and Miller, R. R. Detection of pyrene, benzo[a]pyrene, and other polynuclear hydrocarbons,

1911.

Miller, R. R., Stanley, T., and Hauser, T. Detection of polynuclear hydrocarbons and phenols with benzylidene and piperonylidene chlorides, 4197.

Sawyer, D. T., Pecsok, R. L., and Jensen, K. K. Polarograph with direct recording of electrode potential, 3227.

Saxena, R. A. Potentiometric determination of lead, 3666.

- and Bhatnagar, C. S. Potentiometric determination of primary aromatic amines, 2685. Saylor, C. P. Calculation of cryoscopic data, 754.

See also Glasgow, A. R., jun., 568.

Sayres, A., and Wu, C. S. Gas scintillation counter,

Sayushkina, E. N. See Kreshkov, A. V., 1123.

Scaife, J. F. Iodimetric estimation of copper in the presence of citrate, 368.

Scalise, M. [Seminar of the Centro Ricerche Spectrochimiche of the Associazione Italiana di Metallurgia.] Complementary nature of X-ray fluorescence and optical emission methods in spectrochemical analysis, 15; Comparison between successive-integration and parallel-integration quantometers for spectrochemical analysis, 15.

Scardi, V. Colorimetric determination of isoniazid in blood serum, 184.

- and **Bonavita**, **V**. Colorimetric determination of isoniazid in biological fluids, 1598.

Scargill, D. See McKay, H. A. C., 3263.

Schaack, W., and Födisch, D. Characteristics of crude montan wax and their evaluation for quality determination. 11, 1937. Schaaff, G. See Bode, H., 2871.

Schablaske, R. V. See Flekkema, D. S., 2622.

Schaffert, R. R. See Umbreit, W. W., 678.

Schall, E. D. Volumetric determination potassium, 27.

Schaller, A., and Paul, F. Acidity relations in beverages. I. Potentiometric determination of titratable acidity, 4312.

Schantz, E. J. See McFarren, E. F., 3896.

Scharf, F. See Lassner, E., 2981, 3696.

Scharrer, K., and Judel, G. K. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Spectrochemical trace analysis after previous concentration, 1435.

and Jung, J. Potentiometric determination of the chloride content of plant and animal sub-

stances, 1596. Scheddel, R. T. R. T. [Infra-red quantitative analysis Analysis of phenol, cyclohexene, cyclohexanone, cyclohexanol mixtures, 3817; Analysis of aniline and 4:4'-methylenedianiline mixtures, 4227; Analysis of styrene - vinyl cyanide copolymers, 4227.

and **Kiley, L. R.** [Infra-red quantitative analysis data.] Analysis of 2-methylpenten-2-al-propionaldehyde mixtures, 1587; Determination of phenol, 2-chlorophenol, 4-chlorophenol and 2:4dichlorophenol in 4-chlorophenol, 1587.

See also Kiley, L. R., 4227, and McCrory, G. A.,

Scheibe, G. See Krempl, H., 319.

Scheibl, F., and Stöhr, R. Detection of E605 [parathion] in biological material, 1397.

Schejtanow, C. See Sagortschew, B., 4014. Schenck, H., Gerdom, K. H., and Schmitz, K.-G.
Procedure for sampling killed and rimming molten steels for the determination of oxygen and

hydrogen, 3747.

Schenck, H.-J. See Arendt, I., 4222. Scheraga, H. A. See Ehrenpreis, S., 1655.

Schering, A.-G. Process and apparatus for paper chromatography and paper electrophoresis, 2043. Scheske, F. A., and Washburn, W. H. [Infra-red quantitative analysis data.] Determination of 2-bromopentane and 3-bromopentane mixtures,

1587.

— See also Washburn, W. H., 3817. Schienkel, H. See Schuhknecht, W., 2113.

Schierbaum, F. Moisture determination by infrared technique in food analysis, 2771. Schiffner, G. See Koch, J., 1368. Schild, W. See Staib, W., 3866.

Schiller, P. Activation analysis, 3983.

and Tölgyessy, J. Radio-chromatographic separation of sodium and potassium, 2106.

 See also Tölgyessy, J., 217, 2530.
 Schillerová, V., and Zýka, J. Polarographic titrations of organic bases. V. Complex compounds of cadmium, bismuth and antimony as volumetric reagents, 221.

Schilling, K., and Dam, H. Sensitive and stable colour reaction for the quantitative determination of vitamin K₁, 3915. Colorimetric estimation of

vitamin K, in plant material, 3916.

Schindel, K. Extension of the fluorescent indicator adsorption method to the estimation of the four main hydrocarbon groups in light petroleum fractions, 2700.

Schindewolf, U., and Irvine, J. W., jun. Preparation of carrier-free vanadium, scandium and arsenic activities from cyclotron targets by ion exchange,

3581.

Schinkel, H. See Schuhknecht, W., 2113, 3634.

[Colloquium Spectroscopicum Inter-VI. Amsterdam, 1956.] Mono-Schläfer, R. nationale chromatic interference filters, 1435.

Schlenk, H., Gellerman, J. L., Tillotson, J. A., and Mangold, H. K. Paper chromatography of lipids, 2405.

Schlierf, H. Separation in series of mixtures by liquid chromatography on columns, 2822.

Schlueter, R. J. See Mitz, M. A., 3488.
Schmall, M., and Wollish, E. G. Determination of panthenol [pantothenyl alcohol] and pantothenates in multivitamin preparations, 966.

— See also Colarusso, R. J., 2383. Schmauch, G. E., and Serfass, E. J. Use of per-

schmid, K. See Beneze, W. L., 204.
Schmid, R. W., and Reilley, C. N. Summary of known conditions for visual EDTA titration, 2493.

See also Reilley, C. N., 3258, 3580. Schmidt, F. Detection of p-hydroxyphenylalkyl-

amines with 1-nitroso-2-naphthol, 2380.

and Bauriedl, H. U. Separation and identifica-

tion of volatile alkylamines, 629.

Schmidt, F. J. High-frequency [magnetic permeability] determination of ferro-magnetic metals, 103

Schmidt, G. Quantitative determination of unsaturated fatty acids on filter-paper, 3911.

Schmidt, H.-J. Determination of potassium by the dead-stop method. Sodium tetraphenylboron as precipitant and thallous nitrate as volumetric reagent, 1450.

Schmidt, W. See Fischer, J., 442. Schmied, W., and Steiner, H. Determination of the total carbon content of clays and like materials, by oxidation with chromium trioxide, 1534. Alkalimetric titration of lead in frits, glazes, etc., after the addition of Complexone I (nitrilotriacetic acid), 3667.

Schmitz, A. A. See Metcalfe, L. D., 1255.

Schmitz, B. Complexometric titration of zinc, lead and mercury in official ointments, 695.

- and Menges, W. Determination of the alkaloids in galenical preparations with Tropaeolin OO, 1332.

Schmitz, K. G. See Schenck, H., 3747. Schmitz, W. See Radmacher, W., 3006. Schneer, A., and Hartmann, H. Volumetric determination of zirconium, 2583.

Schneider, F., Reinefeld, E., and Müller, H. Nitrogen-containing non-sugars. II. Routine determination of glutamic acid, aspartic acid and y-aminobutyric acid in sugar-factory products, 1358.

Schneider, H. E. See Benedetti-Pichler, A. A., 349.

Schnitzer, M. See Hoffmann, I., 3929.
Schöber, G., and Gutmann, V. Polarographic determination of lithium, rubidium and caesium, 3605.

Schoberová, I. See Malkus, Z., 3510. Schoch, H. See Müller, R., 1014.

Schoenfelder, C. W. See Frazer, J. W., 3266.

Schöffmann, E., and Malissa, H. Determination of small titanium contents in iron alloys and ores after separation of heavy metals with tetra-methylenedithiocarbamate, 2156. See also Neuberger, A., 106.

Scholes, P. H. Absorptiometric determination of vanadium in steel, 109.

Scholtens, C. See Os, F. H. L. van, 3416. Schonberg, S. S. See Bricker, C. E., 3316. Schönenberger, M., Kellner, H., Südhof, H., and Haupt, H. Determination of hexoses in serum proteins with orcinol, 1640.

Schöniger, W. Simultaneous micro-analytical determination of the carbon, hydrogen and nitrogen content of organic compounds, on a single sample,

Schormüller, J., Belitz, H.-D., and Lehmann, K. Separation and quantitative determination of phosphoserine, phosphothreonine, serine and threonine, 657.

and Würdig, G. Separation and identification of inositol phosphoric acid esters by paper chromato-

graphy, 1310. Schott, H. O. See Strode, C. W., jun., 232.

Schram, E., and Crokaert, R. Identification of amidino- and carbamoyl-taurine in urine by chromatography on ion exchangers, 655.

 and Lombaert, R. Continuous determination of carbon-14 and sulphur-35 in aqueous medium by a scintillation method. Application to chromatographic eluates, 2149.

Schrecker, A. W. Bulb-tube assembly for vacuum distillation, 304.

Schreiber, T. P. See Mohan, P. V., 3349. Schrenk, W. G. See Berneking, A. D., 2811. Schretzmann, H. See Kuhn, R., 2894.

Schroll, E., and Rockenbauer, W. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Spectrochemical determination of selenium in pyrites, 1435.
Schröter, H. B., and Engelbrecht, L. Estimation of

nornicotine formation in isolated tobacco root,

Schubert, J. Ion exchange, 1767.

Schuele, W. J., and McNabb, W. M. Weighing method for small amounts of hygroscopic and volatile liquids, 3193.

Schuerch, C. See Gross, S. K., 3190. Schuhknecht, W. Flame-photometric measurement of small amounts of calcium in the presence of very large quantities of sodium, 2129. Chromatographic gas analysis, 3598.

and Schinkel, H. Determination of alkalis in fuel ash by flame photometry, 2113. Flamephotometric determination of calcium, strontium and barium in the presence of each other, 3634.

Schuhmann, S. See Weaver, E. R., 3173. Schuldt, P. H. See Burchfield, H. P., 2431, 3935. Schulek, E., Körös, E., and Kéthelyi, J. Determination, by means of bromocyanogen, of

cyano-complex-forming metals, 1444.

- Pungor, E., and Trompler, J. Gas analysis. IV. Vapour pressure of phenol by microchemical method. 3392.

and Szabó, Z. L. Purity test for amino-acid preparations, 4250.

Schulken, R. M., jun., and Sparks, M. L. Viscometer for rapid measurements of dilute polymer solutions at elevated temperatures, 3566.

Schulman, R. G. See Mays, J. M., 4402. Schulte, K. E., and Krüger, H. M. Determination of capsaicin in ointments and similar preparations,

Schultz, H. A. Measurement of concentrations of gaseous halide tracers in air by positive-ion emission, 1706.

Schulz, E. P., and Neuss, J. D. Colorimetric assay for cortisone, hydrocortisone and related steroids, 1323

Schulze, A. Determination of silver in photographic material by differential titration, 2122. hulze, H. E. Electrophoresis wit

Schulze, H. Electrophoresis with isolated proteins, 3467.

Schuster, H. See Seelkopf, C., 1366. Schuster, P. See Roth, H., 2227, 2253. Schütz, A. See Kalousek, M., 2435.

Schwab, G. M., and Neuwirth, O. Continuous gas analysis, 1026.

Schwab, H., Rieman, W., III, and Vaughan, P. A. Theory of gradient elution through ion exchangers,

thwabe, K. Universal electrode glass for pH measurements, 2462. Electrometric pH measurements under extreme conditions. I. Measure-Schwabe, K. ment of hydrogen ion concentration in strongly acid and alkaline solutions, 2852

Schwartz, D. P., and Pallansch, M. J. Detection of tyrosine on paper chromatograms, 950. test.-Butyl hypochlorite for detection of nitrogenous compounds on chromatograms, 2243.

Schwartz, K. See Martens, G., 2523. Schwartz, M., and Myers, T. C. Micro-titrimetric constant-pH method for accurate enzyme analysis.

Schwartz, S. M. Phytochemical investigation of Digitalis lutea of second-year growth, 1335.

Schwarz, G. Chromatographic analysis of lubricating oil fractions, 1922.

Schwarz, K., and Bitancourt, A. A. Paper chromato-graphy of unstable substances, 2044.

Schwarz, T. W. See Levy, G., 976. Schwarz, W. Potentiostat as an aid in polarography and amperometry, 1076.

Schwemer, W. C. See Murphy, J. E., 1938. Schweyer, H. E. Spectral absorption of asphaltic materials, 2291.

Schwing, J. P., and Rogers, L. B. Comparison of different palladium-hydrogen electrodes as pH indicator

Sciarrone, B. J. See Conte, S. R., 1356.

Sciuti, S. See Prosperi, D., 4097.
Scott, C. B. See Menefee, A., 1877.
Scott, R. P. W., and Cheshire, J. D. High-efficiency columns for the analysis of hydrocarbons by gas - liquid chromatography, 2440.

Scribner, B. F. [Review of industrial applications of analysis, control and instrumentation.] Emission spectroscopy, 2867.

Seaman, W. Liquid scintillation counter for chemical analysis with radioactive tracers, 1423. Lawrence, H. C., and Craig, H. C. Solid-sample

Deter-

techniques in K-capture spectroscopy. mination of chlorine and bromine, 1249.

Sebela, F. See Jurčík, F., 2784. Seckinger, H. L. See MacMasters, M. M., 977.

Sedivec, V. Diethyldithiocarbamate as volumetric reagent. II. Determination of mercury, 794.

Sedláček, B., and Rybín, R. Colorimetric determination of oxidation changes of fats using 2-thiobarbituric acid, 1695.

Seeber, R. E., White, R. G., and Ferber, K. H. Determination of parts per million of iron in adipic acid by ultra-violet absorption, 1891.

Seelen, J. C. See Stolte, L. A. M., 3454.
Seelen, P. J. See Ligny, C. L. de, 374.
Seelkopf, C., and Schuster, H. Qualitative and quantitative determination of amino acids in important edible fungi, 1366.

Segatto, P. R. See Zenchelsky, S. T., 1744.

Seguin, P. See Ducret, L., 1793.
Segura, H. F. See Fernandez Segura, H.
Seibold, R. Determination of small quantities of nitrite in fish meal, 2025.

Seidel, W., and Eichhoff, H. J. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] "Equal-intensity" routine method for spectrochemical analysis, 1435.

Seidl, K., and Beránek, M. Methylcyclohexanone, a solvent for the extraction of uranium and the separation of uranium from thorium, 3590.

Seidman, M., and Blish, M. J. Quantitative determination of L-glutamic acid by L-glutamic acid decarboxylase (from Escherichia coli), 653.

Seifter, S. See Gallop, P. M., 1660.
Sekelj, P., and Johnson, A. Photo-electric estimation of the oxygen saturation of non-haemolysed whole blood, 614.

Sekerka, B., Spevák, A., and Friedrich, K. Infra-red indication in gas chromatography, 2827.

Seki, T. Chromatographic separation of oestriol, oestrone and oestradiol-17 \$, 4264.

Sekiguchi, M. See Fukamauchi, H., 425. Sekowska, B. See Bellen, Z., 130. Sekt, K. I., and Kuznetsova, T. P. Determination of vanadium in deposits on surfaces of boilers and turbine blades, 1820.

Seligson, D., and Hirahara, K. Measurement of ammonia in whole blood, erythrocytes and plasma, 617

McCormick, G. J., and Sleeman, K. Electrometric determination of chloride in serum and other biological fluids, 3821.

and Marino, J. Automatic pipetting attachment for the Van Slyke manometric apparatus, 3939.

Marino, J., and Dodson, E. Determination of

sulphobromophthalein in serum, 2318.

See also Shapiro, B., 635. Selivanova, N. M., and Zubova, G. A. Polarographic determination of strontium, 1130.

Selkmann, K. See Oehme, F., 1077. Sellers, A. L. See Katz, J., 2344. Selzer, G. B., and Wright, W. W. Paper chromato-graphy of the tetracycline antibiotics and their epimers, 231

Semechkin, L. Ya. See Vinogradov, G. V., 152. Semenenko, K. A. See Tarasevich, N. I., 468.

Semenov, D. I. Apparatus for the removal of salts from solutions of amino acids, 3943.

Semenza, G. Detection of dipeptides and dipeptidase activity on paper, 659. Determination of purines and pyrimidines by paper electrophoresis, 1617.

Sen, B. Indirect complexometric titration of sodium and potassium with EDTA, 26.

Berg, E. W., and West, P. W.

Acid - base indicator, 2079.

Sen. S. Estimation of molybdenum and rhenium in Indian columbite, 4088.

Señas, J. R. See Rodriguez Señas, J.

Senft, G. See Janecke, H., 4225. Senise, P. Spot test for sulphites based on the induced oxidation of cobalt - azide solutions, 1497

Seno, S. See Negoro, H., 4219, and Sakurai, H., 1975.

Sen Sarma, K. P. Diallyldithiocarbamylhydrazine as a reagent: determination of palladium and its separation from nickel, 539.

See also Dutt, N. K., 4147

Sensi, P., Gallo, G. G., and Chiesa, L. Differential spectrophotometric determination of novobiocin,

Sentyurin, I. G. See Palei, P. N., 1071.

Senyavin, M. M. [Reviews of Russian analytical chemistry.] Chromatographic analysis, 1082. Ion-exchange chromatography in quantitative

chemical analysis, 1091.

— See also Shchipakina, N. K., 360.

Seo, T. See Uzumasa, Y., 1853.

Seo, T. See Uzumasa, I., 1895.
Seoane, D. See Sanahuja, J. C., 3857.
Serfass, E. J. See Schmauch, G. E., 4374.
Sergeeva, Z. I. See Ioffe, B. V., 1262.
Sergienko, S. R., Galich, P. N., and Spivak, L. L.
Potentiometric study of high-molecular petroleum compounds. III. Determination of peroxide numbers, 586.

Serizawa, S. See Kamada, H., 2909.

Serra, J. See Estevan, J., 115. Serrano, C. See Montequi, R., 1116. Serrano Berges, L. See Bernal Nievas, J., 2641.

Servigne, Y., and Duval, C. Paper-chromatographic separation of inorganic anions containing sulphur, 1833.

Seryakova, I. V. See Kuznetsov, V. I., 2483.
Sethna, S., and Tsao, M. U. Protein level in cerebrospinal fluid. Evaluation of methods of determination, 1641.

Seto, K. See Imai, T., 3754.
Setter, L. R., Hagee, G. R., and Straub, C. P.
Analysis of radioactivity in surface waters [and biological samples]—practical laboratory methods,

3540. Severen, R. van. Solanaceae. Micro-determination of the alkaloids, 4274.

Sezaki, H., and Sakata, S. Determination of pyrazinamide. III. Simultaneous determination of pyrazinamide and isoniazid, 1974.

— See also Kakemi, K., 1945.

Shabtai, J. See Gil-Av, E., 2695.

Shafer, E. G. E. See Colarusso, R. J., 2383.

Shab, N. D. Tin as an analytical reducing agent in glacial acetic acid, 766.

Shain, I., and Huber, C. O. Automatic titrator based on constant-current potentiometric titrations, 4389.

See also DeMars. R. D., 1745, and Huber. C. O., 511.

Shakh, Ts. I. Quantitative determination of "Étazol" [2-(p-aminobenzenesulphonamido)-5ethyl-1:3:4-thiadiazole] and sulphadimidine,

Shakhova, Z. F., and Motorkina, R. K. Heteropoly compounds for gravimetric and volumetric determination of germanium, 1477. [Conference Conference on Methods of Analysis of Rare and Non-Ferrous Metals. Moscow, 1956.] Colorimetric determination of germanium as the molybdogermanic heteropoly acid, 1442.

Motorkina, R. K., and Mal'tseva, N. N. Determination of germanium as molybdogermanic acid after separation from certain elements by extraction, 429.

Shakhtakhtinskii, G. B., and Aslanov, G. A. Arsenate - iodimetric determination of calcium,

and Mukimov, A. M. Arsenate - iodimetric determination of titanium, 2574. Arsenate - iodimetric determination of titanium in the presence of aluminium, 4045.

Shale, C. C. See Kane, L. J., 2288. Shalgosky, H. I. Polarographic determination of

boric acid with sodium nitrite, 1467. See also Barker, G. C., 2478, and Ferrett, D. J.,

Shamaiengar, M. See Mair, B. J., 2261. Shamir, J. See Heitner-Wirgin, C., 2873.

Shanahan, C. E. A., and Cooke, F. Routine determination of oxygen in steel using carrier-gas fusion, 4118.

Shank, R. C., Rein, J. E., Huff, G. A., and Dykes, F. W. Facilities and techniques for analysis of highly radioactive samples, 2474.

Shannon, D. W. Extraction method for the determination of radio-ruthenium in organic samples.

Shapiro, B., Seligson, D., and Jessar, R. Measure-ment of uric acid in biological fluids using ionexchange separation, 635.

Shapiro, M. M. Determination of carbides in stainless steel by electrolysis, 2638.

and Levit-Gurevich, G. E. Phase analysis of iron - nickel - titanium alloys, 1858.

Sharkey, A. G., jun. See Robinson, C. F., 4411.

Sharma, B. See Bapat, M. G., 1431, 1517.

Sharma, N. N. Cerate - chromate oxidimetry. Estimation of formic and oxalic acids in their mixtures, 561.

Sharma, S. S. See Verma, M. R., 2538. Sharp, P. See Porter, C. A., 1314.

Sharpless, N. E., and Munday, J. S. spectra of heteropoly acid salts, 1236. Infra-red

Shatenshtein, A. I., and Varshavskii, Ya. M. Methods of isotopic analysis of water. III. Complete isotopic analysis of water by decomposition on iron, 353.

Yakovleva, E. A., Gladkova, E. N., Suzdal'tseva, S. F., and Antipova, N. P. Isotopic analysis of water. II. Liquids for the dropping method of isotopic analysis of water with deuterium concentrations up to 100 atoms per cent., 353.

Yakovleva, E. A., Suzdal'tseva, S. F., and Anti-pova, N. P. Isotopic analysis of water. IV. Complete isotopic analysis of water, 714.

and Zvyagintseva, E. N. Isotopic analysis of water. V. A float method for density with an accuracy of ± 0.2 μg per ml, 1111.
 Shat'ko, P. P. Solution of bivalent chromium for

determining antimony, 460.

Sharrovskaya, T. I. See Rapoport, F. M., 1879. Shaw, A. C., and Dignam, M. Chromatography of waste sulphite liquor, 915.

Shaw, A. E. See O'Hagan, J. E., 2325.
Shaw, W. B. See Clarke, W. E., 110.
Shcheglova, E. P. See Tananaev, I. V., 2901.
Shchelkunova, A. N. See Dymov, A. M., 1523.
Shchelkunova, M. S. See Kokorin, A. I., 4071.
Shcherbov, D. P., and Konovalova, K. M. Coloristic of the supply of the state of the declaration of the state of the declaration of the state of th

metric determination of mercury as the double iodide of mercury and copper, 49.

Shchigol', M. B. Volumetric determination of bismuth in the presence of phosphates, sulphates,

oxalates, salicylates and heavy metals, 1173.

- and Burchinskaya, N. B. Volumetric determination of bismuth in various compounds and

pharmaceutical preparations. II, 1686.
Shchipakina, N. K., Nemirovskaya, E. M., and Senyavin, M. M. Chromatographic separation of sodium and potassium in the analysis of glass,

Shefner, A. M., Ehrlich, R., and Ehrmantraut, H. C.
Tracer method for determining microgram quantities of protein, 4260.

Sheft, I., and Katz, J. J. Direct determination of oxygen in organic compounds, 852.

Shehab, S. K. See Barakat, M. Z., 638.

Shehyn, H. Acidimetric determination of fluorine after ion exchange: application to aluminium fluoride, cryolite and fluorspar, 837.

Sheidina, L. D. See Starik, I. E., 469.
Shein, S. M. See Portnov, M. A., 3041.
Sheldon, M. V. See Reilley, C. N., 2511.
Shelton, R. A. J. Analysis of bismuth - uranium

Shepherd, H. G., jun. See McDonald, H. J., 1037.
Shepherd, J. T. See Roddie, I. C., 613.
Sherma, J., and Rieman, W., III. Solubilisation chromatography. I. Phenols and alcohols, 4198.
Sherwood, P. T. Determination of the cement content of soil - cement. III. Factors involved,

Sheskol'skaya, A. Ya. See Ponomarev, A. I., 466. Sheveleva, N. S. See Gel'man, N. E., 1243. Shevera, V. S. See Kishko, S. M., 3732. Sheyanova, F. R., and Malenskaya, V. P. Chromoxan

pure blue B as a reagent for aluminium, 1794.

— See also Korenman, I. M., 338, 345, 1148. Shibata, K. See Smith, J. H. C., 3216. Shibata, S. See Nakano, K., 2859, 4393. Shibuya, K. See Takei, S., 767. Shigematsu, T. See Ishibashi, Masayoshi, 1213, 1854, 2140, 2554.

1854, 2140, 2554.

Shigley, J. W. See Smith, E. C., 1629.

Shih-cho, L. See I-djen, H., 1435.

Shillingford, J. P. See Murray, J. F., 3829.

Shimanskii, V. M. See Yavorovskii, A. A., 3665.

Shimasaki, K. See Ohashi, K., 2573.

Shimizu, T. See Kinoshita, Y., 692.

Shimoe, D. See Sudo, T., 1876.

Shinagawa, M., Matsuo, H., Kameo, Y., and Matama, Y. Analytical application of -onium compounds.

XI. Dodecyltrimethylammonium chloride and dodecylpyridinium chloride and dodecylpyridinium chloride as chloride and dodecylpyridinium chloride as polarographic maximum suppressors, 1095.

Murata, T., and Yoshida, T. Polarographic determination of tin in lead-base alloy containing

antimony, 434.

Shindo, H., and Ikekawa, N. Infra-red spectra of heterocyclic compounds. I. Alkylpyridines,

and Tamura, S. Infra-red spectra of heterocyclic compounds. II. Methylquinolines, 1564.

Shine, H. J., Snell, R. L., and Trisler, J. C. Bindschedler's green for the analysis of hydrazo compounds, 2486.

Shinoda, K., Noguchi, T., and Yamada, Shigeyuki. Photometric determination of a large amount of cobalt in cobalt naphthenate, 1865.

Shipe, W. F. See Kleyn, D. H., 3519. Shipman, G. F., and Milner, O. I. Determination of arsenic in hydrocarbon reforming catalysts by neutron activation, 2283.

Shipman, W. H. See Weiss, H. B., 1461.

Shirota, N., Kotakemori, M., and Handa, H. Polaro-graphic determination of ethylmercury chloride and methoxyethylmercury chloride in binary mixtures, 4196.

Shishkova, A. P. See Glebovskaya, E. A., 3799. Shiuchi, Y. See Asahina, H., 2364. Shive, W. See Lansford, E. M., 3462.

Shkodin, A. M., Izmailov, N. A., and Dzyuba, N. P. Properties of acids and bases in acid solvents. IX. Acid - base titration in mixtures of formic acid with benzene, 7.

Shkrobot, E. P. See Belyavskaya, T. A., 1442, Ginzburg, L. B., 483, and Gur'ev, S. D., 418. Shlenskaya, V. I. See Przheval'skii, E. S., 537.

Shmuk, E. I. Decomposition of pyrites in coal by dilute nitric acid, 4216.

Shnaiderman, S. Ya. Colour reactions of titanium with phenols, 1807.
Shneider, V. A. See Persiantseva, V. P., 2697.

Shoji, H. See Yamaguchi, K., 3110.

Shore, P. A., and Olin, J. S. Identification and chemical assay of epinephrine [adrenaline] in brain and other tissues, 3847.

Shoup, R. E. Removal of interferences in the Scott -Sanchis fluoride determination, 503.

Shpinel', V. S. See Vinogradov, A. V., 3672.

Shraiber, M. S. See Dzyuba, N. P., 3105.

Shraibman, S. S. Thermochemical determination of active chlorine, 1846.

Shreiner, N. M. See Koshkin, N. V., 388.

Shrewsbury, D. D. [Infra-red quantitative analysis data. Analysis of 3:5-dimethylpyridine, 2:3:6trimethylpyridine, and 2:4:6-trimethylpyridine mixtures, 3069.

Shub, M. E., and Volkova, N. S. Quantitative determination of "Ftivazid" [N-4-hydroxy-3methoxybenzylidene - N - isonicotinoylhydrazine,

Shukla, J. P., Jolly, S. C., and Prabhu, K. A. EDTA in the determination of complex sugars in molasses,

Shul'ga, S. Z. Quartz spectrograph as a monochromator, 2841.

Shun'ko, A. D. Detection of nickel in the presence of cobalt, copper and other elements, 1232.

Shustova, M. B. See Nazarenko, V. A., 2600.

Shuvalova, E. D. See Makar'yants, A. I., 437. Shuvalova, L. V. See Tarasevich, N. I., 1442.

Shuvatov, L. P. Recording densitometer with a photo-electric multiplier, 4382. Shvaiger, M. I., Paklina, V. P., and Medvedeva, A. S.

Photometric determination of bismuth in tin,

Shvangiradze, R. R., and Mozgovaya, T. A. Spectro-graphic determination of calcium, magnesium, copper, aluminium, iron, titanium and boron in high-purity silicon, 2930.

Shvarts, D. M., and Kaporskii, L. N. Spectrographic analysis of high-purity zinc by vacuum sublima-

tion, 2544.

Siblíková, O., and Hais, I. M. Review of several colour and fluorescence reactions of steroids, 3860. Sicha, M. Determination of FeO, MnO and of dissolved gases in iron, 3744.

Siddhanta, S. K., and Banerjee, S. N. S-Substituted thioureas as analytical reagents. II. S-Methylthiuronium sulphate as a reagent for silver, 3624. Sidorov, A. N. See Terenin, A. N., 1435.

Siegel, H. See Fiebig, E. C., 2041.

Siegler, E. H., jun., and Huly, J. W. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Design and performance of a fore-prismgrating infra-red spectrometer, 1435.

Sieglitz, A. See Diemair, W., 1256. Siele, V. I., and Picard, J. P. Spectrophotometric determination of molecular weights by use of

styphnates and picrates, 3368. Sierra, F., and Asensi, G. p-Ethoxychrysoidine oxidising agent systems as new oxyadsorption indicators, 3244.

Sigalla, J. See Herbo, C., 1759. Siggia, S., Starke, A. C., jun., Garis, J. J., jun., and Stahl, C. R. Determination of oxyalkylene groups in glycols and glycol and polyglycol ethers and esters, 2232.

Siitonen, S. See Ringbom, A., 515.

Sikorska-Tomicka, H., Popowicz, J., and Czerepko, K. Chromatographic detection of bismuth^{III}, lead^{II}, copper11 and mercury11 ions, 2176.

See also Czerepko, K., 170.

Silbert, L. S., and Swern, D. Iodimetric analysis of tert.-butyl per-esters, 2681.

Siliprandi, N. See Cerletti, P., 643, 4254. Silva, E. See Feigl, F., 549.

Silva. F. da. Photometric determination of cobalt, 4139

Silverman, L., and Bradshaw, W. Determination of uncombined oxygen in zirconium metal, 4051.

and **Houk, W. W.** Determination of iron, chromium and nickel by X-ray fluorescence aqueous solution method, 3342.

- Houk, W. W., and Moudy, L. A. Determination of uranium dioxide in stainless steels. fluorescence method. [I], 1227; [II]. X-ray fluorescent spectrographic solution technique, 1526.

- and Trego, K. Gravimetric determination of barium in zirconium metal and in zirconium salts,

1131: 2541.

See also Herrman, W., 3864.

Simakov, V. N. Phenylanthranilic acid in the I. V. Tyurina determination of humus, 3932.

Simeček, J. Determination of organic nitrates by titration with ferrous sulphate, 2244.

Simek, J. See Cíhalík, J., 1079, 2142.

Simmonds, D. H. Automatic equipment for determination of amino acids separated on columns of ion-exchange resins, 4253.

Simmons, M. C., and Snyder, L. R. Two-stage gas liquid chromatography, 2047.

See also Ogilvie, J. M., 1764.

Simmons, R. E. See Cline, R. W., 4084. Simöes, R. Identification and determination of NN'-dibenzylethylenediamine (benzathine) in benzathine penicillin, 964.

Simon, A., and Rabowsky, H. Quantitative and qualitative determination of salts in impregnated wood, 2424.

Simon, V. See Krejzová, E., 1981, 2161, 3782, and Mráz, L., 2559.

Simone, G. de. See Cinotti, G. A., 228. Simons, E. L. Automatic cryoscopic determination of molecular weights, 3576.

Simonyi, I., and Tokár, G. Determination of salicylaldehyde, salicylic acid and salicylic esters by fluorescence, 2267.

Sims, A. L. Reservoir for paper chromatography inside a rectangular glass container, 3200. Sims, A. P., and Cocking, E. C. Assay of isotopic

nitrogen by mass spectrometer, 3677.

Singh. Balwant. Diethylenetetra-ammonium sulphatocerate as volumetric reagent. V. Determination of organic derivatives of hydrazine by the iodine chloride method, 2686.

- and Sahota, S. S. Sodium metavanadate as volumetric reagent. V. Determination of organic derivatives of hydrazine; iodine chloride

method, 2245.

- Sahota, S. S., and Singh, S. Sodium hypochlorite as a volumetric reagent. I. Determination of organic derivatives of hydrazine, 4187.

- Singh, S., and Singh, Harbans. Indirect potentiometric determination of reducing agents. Ceric sulphate - ferrous ethylenediamine sulphate method, 1085.

Singh, B. R. See Majumdar, A. K., 2892, 3987. Singh, E. J., and Dey, A. K. Chromatographic study of metal ammines, 3260.

Singh, Harbans. See Singh, Balwant, 1085. Singh, Het. See Handa, K. L., 2369. Singh, S. See Singh, Balwant, 1085, 4187.

Singleton, W. S. See Formusa, K. M., 1638, and Talluto, K. F., 4247. Singliar, M., and Kapišinská, V. Determination of

mercury in catalysts in vinyl chloride production,

Sinhaseni, P. See Riley, J. P., 280.

Siniramed, C., and Manci, C. Direct determination of oxygen in organic substances and in coal, 3765. Sinsheimer, R. L. See Koerner, J. F., 2333.

Sipal, Z. See Jindra, A., 2378. Siplet, H. See Umbreit, W. W., 678. Siposs, G. See Erdey, L., 1453.

Sirotina, I. A., and Alimarin, I. P. Determination of univalent thallium by radiometric titration with sodium tetraphenylboron, 416.

See also Alimarin, I. P., 1787.

Sisti, A. J. See Sass, S., 890.

Sitaramaiah, G. Potentiometric determination of ascorbic acid in fruit and vegetable extracts, 710.

Sittler, E. See Čefelin, P., 917. Sjöquist, J. Determination of amino acids as phenylthiohydantoin derivatives. I. Microsynthesis of 3-phenyl-2-thiohydantoins from amino acids, 1628; II. Chromatographic separation of 3-phenyl-2-thiohydantoins of amino acids,

Sjöstedt, G., and Gringras, L. Determination of calcium and silver in photographic materials via EDTA titrations, 2540.

Sjöstedt, S. See Rooth, G., 3072. Skalska, S., and Held, S. Determination of traces of lithium in calcium hydroxide by spectrographic analysis, 45.

Skellenger, W. M. See Fuerst, R., 3884.
Skibina, E. M. See Gurevich, V. G., 1661.
Sklyarenko, I. S. See Palei, P. N., 1071.
Skobets, E. M., and Belinskaya, N. I. Polarographic

determination of manganese in copper alloys by oxidation on a platinum anode, 1516.

Skogstrom, P. See Rosenkrantz, H., 3472. Skoog, D. A., Lai, M.-G., and Furst, A. Quinoxaline-2: 3-dithiol as a colorimetric reagent. Determina-

tion of nickel in ammoniacal solutions, 2650. Skopintsev, B. A., and Karpov, A. V. Conditions for the conservation and determination of sulphides in natural waters, 3918.

Skovlin, D. O. See Beckman, H. F., 3934.

Skřívan, V. See Rybář, D., 249. Slack, S. C., and Mader, W. J. Colorimetric procedure for iminazolines, 3509.

Sladky, R. E. Assay of microgram samples of lithium with a mass spectrometer, 1117.

Slámová, E. See Jakubec, I., 216.

Slater, T. F. Determination of small amounts of

lactose in milk and tissue suspensions of mammary gland, 2392.

Slaunwhite, W. R., jun., and Neely, L. Purification of urinary 17-oxosteroid extracts for infra-red analysis, 1322.

Slavatinskii, A. S. Potentiometric titration of manganese in ferrous and non-ferrous metals and alloys, in ores, minerals and other materials with micro sample weights, 1210.

Slavik, I., and Kuniak, L'. Determina lignin in bleached viscose-cellulose, 2717. Determination of

Slee, L. J. See Ferrett, D. J., 1073, and Milner, G. W. C., 3254.

Sleeman, K. See Seligson, D., 3821. Sliwinski, R. A., and Doty, D. M. Determination of micro quantities of methyl mercaptan [methanethiol] in y-irradiated meat, 3515.

Slothouwer, F. M. See Dijk, C. P. van, 2882.

Slovik, N. See Samachson, J., 1513.

Slutskin, R. L. See Mezentseva, N. M., 3745. Sluyterman, L. A. Æ. Amperometric titration of mercapto groups with silver nitrate, 551.

Slyusarev, A. T. See Lapin, N. N., 3044. Smajkiewicz, A. See Krówczyński, L., 957. Smales, A. A., and Ferrett, D. J. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957. The use of radioactive and stable isotopes in industrial analytical problems, 2478.

- and Mapper, D. Determination of trace impurities in graphite by radioactivation.

Vanadium, 1175

Mapper, D., Wood, A. J., and Salmon, L. Determination by radioactivation of trace quantities of arsenic, antimony and copper in pure silicon, 800.

Smit, J. van R., and Irving, H. Determination of indium in rocks and minerals by radioactivation,

- and Webster, R. K. Determination of rubidium in sea water by the stable-isotope dilution method, 718.

Smart, J. See Parsons, C. A., & Co. Ltd., 2031. Smart, R. C., and Webb, M. S. W. Spectrographic determination of calcium and zirconium in bismuth - uranium alloys, 3278.

Smethem, P. S. See Kendall, C. E., 2446. Šmid, M., Kakáč, B., and Pádr, Z. Tetrazolium salts. I. Determination of 2-methyl-1:4naphthaquinone [menaphthone], 255

Smirnova, M. N. See Moroshkina, T. M., 2616. Smirnov-Averin, A. P., Kostarev, G. B., and Krot, N. N. Complexone III in the chromatographic separation of rubidium and caesium, 363.

Šmirous, F. See Vepřek-Šiška, J., 3306.
 Smissman, E. E. See Beck, S. D., 3189.
 Smit, C. J. B. Determination and characterisation

of the phenolic substances of fruit, 1367.

Smit, J. A. See Hoens, M. F. A., 1435.

Smit, J. van. R. See Irving, H., 412, and Smales,
A. A., 411.
Smit, W. M. Determination of errors occurring in

temperature - heat content curves, 751. and Kateman, G. Automatic (or semi-automatic) apparatus for the determination of melting curves,

750.

Smith, A. L. See Brown, P., 3069. Smith. B. Silicon determination in low-boiling organosilicon compounds by acid digestion, 116. Smith, B. W., and Roe, J. H. Micro-determination

of amylase in body fluids, 675. Smith, C. F. Projection spectrum comparator, 1055. Smith, D. K. See Kahn, B., 717.

Smith, E. C., Althouse, P. M., and Shigley, J. W. Separation and detection of trifluoroacetyl amino acids, 1629.

 Smith, E. R. B. See Nury, F. S., 209.
 Smith, G. F. Separatory funnel for use in liquid amalgam reductions, 734. Wet oxidation of organic matter employing perchloric acid at graded oxidation potentials and controlled temperatures, 1770. Variable-temperature Dewar-type tubular desiccator, 2052. [Congress. Modern analytical chemistry in industry. Andrews, 1957.] New analytical reagents and their applications in industrial plant-control operations, 2478

and Veraguth, A. J. Determination of chlorates in the presence of perchlorates. Reduction of chlorates in acid solution employing excess of

iron^{II} or arsenic^{III}, 2203.

Smith, G. N., Getzendaner, M. E., and Kutschinski, A. H. Determination of 2:2-dichloropropionic acid (dalapon) in sugar cane, 2426.

Smith, H. L., and Hoffmann, D. C. Ion-exchange separations of the lanthanides and actinides by elution with ammonium a-hydroxyisobutyrate, 423.

Smith, H. R. See Cherry, R. H., 4376. Smith, J. H. C., Shibata, K., and Hart, R. W. Spectrophotometer accessory for measuring absorption spectra of light-scattering samples. Spectra of dark-grown albino leaves and of adsorbed chlorophylls, 3216.

Smith, M. E. Spectrophotometric determination of cerium in plutonium, 421. Spectrophotometric determination of rhodium and platinum in

plutonium, 3351

Smith, M. F. See Spindler, D. C., 4106.
Smith, P. F. See Conte, S. R., 1356.
Smith, R. J. See Read, W. H., 2029.
Smith, R. N., Swinehart, J., and Lesnini, D. G.

Chromatographic analysis of gas mixtures containing nitrogen, nitrous oxide, nitric oxide, carbon monoxide and carbon dioxide, 4057.

Smith, W. H. Multi-purpose standard for microchemical analysis, 1755.

Smith, W. T., jun., Wagner, W. F., and Patterson, J. M. [Review of industrial applications of analysis, control and instrumentation.] Volumetric and gravimetric analytical methods for organic compounds, 2867.

Smits. G. Periodide determination of choline, 1311.

Smyshlyaev, S. I. See Tananaev, N. A., 4038. Smythe, L. E. Coulometric analysis, 3251.

and Bruin, H. J. de. Oxygen content of sodium metal by the butyl bromide method, 2886

Sneddon, G. W. See Jenkins, E. N., 3542, and Milner, G. W. C., 1485.

Snell, E. E. See Kalyankar, G. D., 2738.

Snell, N., Ijichi, K., and Lewis, J. C. Paper-chromatographic identification of polypeptidic Gram-positive-inhibiting antibiotics, 1968.

Snell, R. L. See Shine, H. J., 2486.

Snobl, D., and Lehar, L. Analysis of the system cyclohexanone - cyclohexanol by the dielectric constant, 886.

See also Večeřa, M., 850, 3359, 3365. Snyder, L. R. See Simmons, M. C., 2047.

Snyman, J. M. See Perold, G. W., 3763. Sobchuk, B. A. See Popov, V. V., 939.

Sobel, A. E. See Bachra, B. N., 3820, and Samachson, J., 1513.

Sobel. C., Golub. O. J., Henry, R. J., Jacobs, S. L., and Basu, G. K. Norymberski determinations of 17-oxogenic steroids (17-hydroxycorticosteroids) in urine, 3479.

See also Henry, R. J., 213, 952

Sobolev, I. See Luedemann, G., 164.

Sobotka, H. Microbiological assay of vitamins in clinical chemistry, 3835.

Société Anon. des Manufactures des Glaces et Produits Chimiques de Saint-Gobain, Chauny et Cirey. Detection and estimation of sulphur dioxide in a gaseous mixture, 816.

Society for Analytical Chemistry. See Association of British Chemical Manufacturers, 281, 2014, 2015, 2419, 2420, 3186.

Soemantri, R. M. See Hendriks, W. J., 2262.

Sokolov, V. A., and Kuz'mina, L. P. Chromatographic analysis of C₁ to C₄ hydrocarbons and non-hydrocarbon gases, 2670.

Sokolova, E. V., Pesis, A. S., and Panova, N. I. Photometric determination of cobalt with pyrazolone derivatives, 1229.

— See also Gusev, S. I., 379.

Solberg, P., Syrrist, G., and Steinsholt, K. Formol titration and its use for determination of protein in milk from individual cows, 1987.

Soleil, J., and Hirt, G. Detection and determination of acetic acid by the Duclaux method, 129.

Soliman, A. See Flaschka, H., 2115, 2522. Solinas, P., Betti, R., and Di Leo, E. F. P. Use of diacetin in pre-staining serum lipoproteins, 1645. Solms, J. J. Continuous chromatographic separation of mixtures, 2046.

Solodovnik, S. M., Rusanov, A. K., and Kondrashina, A. I. Spectrographic determination of scandium

in minerals, ores and products of refining, 419.

Solomon, A. K., and Caton, D. C. Recording colorimeter for microchemical determinations,

Solomon, M. See Donovan, G., 2741.

Soloveichik, L. S., and Nikolaeva, A. P. Determination of acenaphthylene in mixtures of acenaphthylene and acenaphthene, 1910.

Solov'ev, L. T., Salazkina, S. S., Padalka, N. A., Ofitserova, V. N., and Lopatina, N. I. Qualitative and quantitative analysis of a mixture of amino acids by paper chromatography, 649.

Soloway, S., and Rosen, P. Classification of organic compounds based on behaviour of a solvochromic and thermochromic indicator system, 1535.

Solymosi, F. Determination of selenite with potassium ferricyanide, 2607.

and Varga, A. Determination of sulphur compounds in mixtures, with ferricyanide and osmium tetroxide as catalyst, 2966.

See also Csányi, L. J., 1823. Sommer, L. Qualitative test for and fluorimetric

determination of boric acid, 2553. Songina, O. A. Advances in amperometric titration,

4392 - Kemeleva, N. G., and Kozlovskii, M. T. Electrolytically generated permanganate ion for coulometric titration, 1851.

See also Kondrakhina, E. G., 3709, and Musina,

T. K., 3691, 4401 Sorensen, L. M., and Matzke, J. R. Stable 2-naphthol solution for fluorimetric determination of malic acid, 4183.

Sorg, L. V. See Offutt, E. B., 3954, and Standard Oil Co. (Indiana), 1080.

Sorgenfrey, C. H. See Thies, H., 3874.

Sorokin, Ya. Z. See Perepelkin, K. E., 4075.

Sorokina, K. P. See Blok, N. I., 1861.

Sorrels, M. F., and Reiser, R. Identification of

marine-oil constituents by chromatography, 1994. Sosa, J. P. See Manuele, R. J., 3286. Sosin, Z. See Augustyn, W., 1155. Sotnikov, V. S. See Alimarin, I. P., 2075.

Soukup, M. See Grüner, K., 3647. Soundaravalli, K. S. V. See Nayar, M. K., 4280.

Sourd, J. Polarographic determination of dibutyl phthalate, diphenylamine and dinitrotoluene in propellents, 2308.

Sourkes, T. L., and Drujan, B. D. Routine determination of catecholamines in urine and tissues,

Southworth, B. C., Hodecker, J. H., and Fleischer, K. D. Determination of mercury in organic compounds. Micro- and semi-micro method, 4162.

 See also Fleischer, K. D., 2226.
 Sowden, E. M., and Stitch, S. R. Trace elements in human tissue. II. Estimation of the concentrations of stable strontium and barium in human bone, 601.

Soye, C. Oxidation of choline by potassium dichromate; determination, 1620.

Sozzi, J. A. See Niederl, J. B., 1241.

Spackman, D. H., Stein, W. H., and Moore, S. Automatic recording apparatus for the chromatography of amino acids, 4359.

— See also Moore, S., 4251.

Spacu, G., and Gheorghiu, C. Gravimetric determination of molybdenum, 2188.

and Pirtea, T. I. Gravimetric determinations of thorium, aluminium, beryllium and zinc, and their separation from other elements, 1166.

Spacu. P., and Gheorghiu. C. Gravimetric microdetermination of molybdenum alone or in the presence of other elements, 2974.

and Teodorescu, G. Volumetric determination of isoniazid, 244.

Spahr, P. F. See Chibnall, A. C., 3466. Spálenka, M. Polarographic determination of antimony in washed concentrates of copper antimony, 3685.

Spandrio, L. See Ceriotti, G., 203, 205.

Spanyár, P., Kevei, E., and Kiszel, M. Determination of nitrite and nitrate in meat-curing brines by polarography, 261. Determination of capsaicin, 1337

Sparks, M. L. See Schulken, R. M., jun., 3566. Speakman, J. B. See Ross, D. A., 1930.

Specker, H., Jackwerth, E., and Hartkamp, H. Comparative studies on the accuracy of photometric and chemical analyses, 2869. See also Hartkamp, H., 2086, 2095.

Speecke, A. See Coryn, G., 3209.
Speichert, H. See Debska, W., 3494.
Spencer, K. E. V. See Adam, H. M., 3848.
Spencer, R. P., Mitchell, T. G., and King, E. R.

Neutron activation analysis of sodium in blood serum, 2310.

Speth, O. C. See Arison, B. H., 4335.
 Spevák, A. See Sekerka, B., 2827, and Večeřa, M., 859, 2667.

Spialtini, A. See Cerri, O., 3486.

Spicer, G. S., and Strickland, J. D. H. Determination of microgram and submicrogram amounts of boron. I. Absorptiometric determination using curcumin, 4019.

Spiliadis, A., Bretcanu, D., and Badica, E. Determination of 1-naphthol-3;6;8-trisulphonic acid in the presence of 1:8-dihydroxynaphthalene-3:6-disulphonic acid (chromotropic acid), 147.

Spillane, F. J. Automatic direct-reading apparatus for determining the surface area of powders, 2051.

Spindler, D. C., and Smith, M. F. Spectrochemical determination of fluorine in porcelain enamel frits,

Špinková, V. See Šafařík, L., 3890. Spinks, J. W. T. See Pawliw, J., 337.

Spiridonova, O. S., and Bezuglova, T. I. Isolation of the carbide phase in steel, 2992

Spitsyn, V. I., and Mikheeva, N. B. Analytical determination of radio-caesium as tungstophosphate, 3997.

Zaborenko, K. B., and Brusilovskii, S. Disodium ethylenediaminetetra-acetate (Trilon B) in the emanation determination of radium, 391.

Spitzy, H., Magee, R. J., and Wilson, C. L. Reduction and determination of small amounts of

tion and determination of small amounts of rhenium VII, 513.

Spivak, L. L. See Sergienko, S. R., 586.

Spivakovskii, V. B. See Aksel'rud, N. V., 410.

Spooner, J. L. See Banks, C. V., 2919.

Sporek, K. F. Determination of phosphate in uranium ores, concentrates and liquors via an EDTA titration, 4062. Complexometric determination of sulphate, 4078. Determination of total fluoride content in uranium tetrafluoride using ion-exchange columns, 4107.

Sprintssov, V. D. See Murina, G. A., 29. Squirrell, D. C. M. See Haslam, J., 9.

Srikantia, S. G., and Gopalan, C. Validity of the urea estimation of total body-water in malnutrition, 2724.

Srikantiah, H. See Giri, K. V., 1318.
Srinivasan, M. See Desikachar, H. S. R., 1365.
Srinivasulu, K., Purushottam, D., and Rao, B. S. V. R. Haematein as a reagent for thorium, zirconium and uranium, 3303.

Srivastava, R. K. See Ghosh, A. K., 4279.
Srivastava, S. P., Prakash, D., and Lal, J. B.
Physico-chemical estimations of esters and alcohols in essential oils and synthetic blends. III, 2709.

Stadtmüller, R. See Gunesch, H., 3775. Stagg, H. E., and Reed, R. H. Determination of 4-aminodiphenyl in technical diphenylamine, 143. Stahl, C. R. See Siggia, S., 2232.

Stahl, E. See Rochelmeyer, H., 3495. Staib, W., and Schild, W. Dete Determination of

17-oxosteroids in urine, 3866.

See also Ott, D., 2353, and Pelzer, H., 2354. Stainier, C., and Lapiere, C. Quantitative analysis of an anti-neuralgic mixture containing phenyl semicarbazide, 3891.

Stalcup, H., Fauth, M. I., Watts, J. O., and Williams, R. W. Reduction of nitroglycerin by catalytic hydrogenolysis in analysis of propellents for dioctyl phthalate, 928.

- McCollum, F., and Whitman, C. L. Determination of phthalate esters in propellents, 929. See also Williams, R. W., 884.

Stamicarbon, N.V. Flame-photometric testing of flammable gases and apparatus therefor, 315.

Stancescu, I. See Donovan, G., 2741.

Standard Oil Co. (Indiana). Direct polarographic determination of tetraethyl-lead in gasoline, 1080. See also Offutt, E. B., 3954.

Stănescu, D. See Duca, A., 1717.

Stănescu, G. Colorimetric determination of small

Stanescu, G. Colorimetric determination of small amounts of calcium, 42.

Stangl, R. See Basl, Z., 4064.

Stankova, S. M. See Fainberg, S. Yu., 32.

Stanley, E. L. See Rosenthal, I., 3192.

Stanley, T. See Sawiki, E., 4197.

Stanton, R. E. See Wood, G. A., 287.

Starik, F. E. See Starik, I. E., 1501, 2571, 3721.

Starik, I. E., Atrashenok, L. Ya., and Krýlov, A. Ya.

Determination of uranium in rocks and minerals Determination of uranium in rocks and minerals

by fluorescence, 2621. Ratner, A. P., Pasvik, M. A., and Ginzburg, F. L. Determination of the ratio of plutonium to uranium in pitchblende, 3727.

Ratner, A. P., Pasvik, M. A., and Sheidina, L. D.

Determination of protactinium, 469.
- and Starik. F. E. Chromate method for determining small quantities of lead, 2571.

Starik, F. E., and Apollonova, A. N. Fluoride method for separating small quantities of uranium for subsequent polarographic determination, 3721.

Starik, F. E., and Kostyrev, G. V. Analysis of small quantities of tervalent chromium based on the extinction of the luminescence of uranium, 1501.

and Starik-Smagina, A. S. determination of uranium, 2615. Polarographic

Starik-Smagina, A. S. See Starik, I. E., 2615. Stark, G. R., and Dawson, C. R. Spectrophotometric micro-determination of copper in copper oxidases using oxalyldihydrazide, 2357.

Stark, L., and Forell, H. von. Determination of aqueous sucrose solutions, in particular of Sirupus Simplex D.A.B. VI, 1354.

Stárka, L. Polarographic estimation of formaldehydogenic and acetaldehydogenic steroids, 2749. and Vystrčil, A. Polarography of anthrone

derivatives in glacial acetic acid, 892.

Vystrčil, A., and Stárková, B. Polarography of anthraquinone derivatives in glacial acetic acid.

Starke, A. C., jun. See Siggia, S., 2232. Stark-Mayer, C. See Feigl, F., 1240.

Stárková, B. See Stárka, L., 893.

Stas, M. E. Identification and determination of boric acid and benzoic acid in egg products, 994. Steel, A. E. Determination of uric acid in biological materials, 3831.

Steele, E. L., and Yoe, J. H. Naphthylamine-sulphonic acids. Organic reagents for spectrophotometric determination of trace amounts of osmium, 1233.

Steele, M. C., and England, L. J. Nephelometric determination of arsenic, 454.

Steele, T. W. Chemical determination of uranium 2191

Steers, J. E., jun. See Paterson, J. I., 4119. Stefan, V. See Pleticha, R., 565.

Stefko, B. See Gyenes, I., 3886.

Steff. M. Decomposition of minerals with aluminium - sodium hydroxide. Determination of boron in silicates, 3645.

Stegemann, H. PVC "paper" as a carrier material in electrophoresis, 757.

See also Fitzek, J., 2515.

Stein, W. H. See Moore, S., 4251, and Spackman, D. H., 4359.

Steinberg, D. See Markovitz, A., 1954. Steinberg, M. P. See Vetter, J. L., 3514.

Steindelowna, H. Quantitative estimation of linalol in coriander oil, 169.

Steiner, H. See Schmied, W., 1534, 3667.

Steinsholt, K. See Solberg, P., 1987. Stejskal, Z. See Blažek, J., 251, 1683, 1976, 3888, and Kráčmar, J., 1684.

Stelgens, P. See Nöller, H. G., 1622. Stelzner, R. W. See Kelley, M. T., 1725. Stenhagen, E. See Hallgren, B., 1698.

Stenlake, J. B., and Williams, W. D. Spectro-photometric determination of αβ-unsaturated aldehydes and ketones with Girard-T reagent. I. Essential oils, 2712; II. Ketosteroids, 2758.

Stenmark, G. A. Argentimetric method for epoxides, 858. Determination of alpha-glycol content of epoxy resins, 2720.

Stentzel, L. See Hromatka, O., 4336. Štepánková, V. See Neumann, J., 2268. Stephen, W. I. See Belcher, R., 3592.

Sterescu, M., Arizan, S., Dobrovici, M., and Talmaciu, **R.** Estimation of vitamins B₁, B₂, B₆ and the PP factor [nicotinamide] from the B complex, 708.

Sterligov, O. D. See Kazanskii, B. A., 3048. Stern, D. G. Chromatographic determination of cobalt in ferrous alloys, 111.

Stern, J., and Lewis, W. H. P. Colorimetric estimation of calcium in serum with o-cresolphthalein complexone, 1592.

Sternberg, Z. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Correlation between the processes on the electrodes and the spectral emission, 1435.

 Stetton, D.-W., jun. See Mehler, A. H., 1739.
 Stevens, H. M. Paper chromatography in the separation of the valency states of biologically important metals in the metabolism of micro-

organisms, 2021. Stevens, J. D. See Humoller, F. L., 3489. Stevens, R. E. See McCarthy, J. H., jun., 2998. Stevens, S. G. E. See Cross, A. H. J., 2713.

Stevens, V. L. See Duggan, E. L., 299. Stevenson, F. J. Amino-polysaccharides in soils: colorimetric determination of hexosamines in soil hydrolysates, 1393.

Stewart, D. C., and Kato, D. Analysis of rare-earth mixtures by a recording spectrophotometer, 2146.

Stewart, F. N. See Strode, C. W., jun., 232.

Stewart, J. A., and Bartlet, J. C. Determination of

zinc and separation from ashed biological material,

Stewart, J. E., and Hellmann, M. Infra-red spectra of crystalline polyphenyls, 4200.

Steyermark, A. Historical developments in quantitative organic micro-analysis, 3357.

Stinsky, F. Titrimetric determination of dissolved sulphur in mineral oils and greases, 905.

Stitch, S. R. Trace elements in human tissue. A semi-quantitative spectrographic survey, 601. — See also Sowden, E. M., 601. Stitt, F., and Bailey, G. F. Reduced-scale auxiliary

recording of infra-red spectra, 1060.

Stock, J. T. Compact unit for potentiometric and 'dead-stop end-point' titrimetry, 2463. Suctionoperated differential electrode system for potentiometric titration, 2464.

and Fill, M. A. Transistor-operated dispensing device for liquids, 3224.

and Purdy, W. C. Potentiometric electrode systems in non-aqueous titrimetry, 1761.

Stockdale, D. Molybdate method for the determination of phosphorus, particularly in basic slag and in steel, 2166.

Stockx, J. See Fiers, W., 1326. Stocmeier, H. G. Lange von.

Determination of oxygen in titanium, 3669.

Stohlmann, H. See Awe, W., 1973, 2370.

Stöhr, R. See Scheibl, F., 1397.

Stokes, R. H., and Woolf, L. A. Determination of small amounts of iodide in the presence of chloride by potentiometric titration, 1515.

Stolte, L. A. M., Bukker, J. M. J., and Seelen, J. C. Quantitative estimation of gonadotrophins in non-pregnant urine, 3454.

Stolyarov, K. P. Iodimetry in ultra-violet light,

Stone, K. G. See Herbst, R. M., 2694.

Stone, R. L., and Rase, H. F. Differential thermal analysis for testing silica - alumina catalysts, 801. Stone, W. K., and Holmes, A. H. Determination of soluble whey protein by direct nesslerisation of

Kjeldahl digests, 1988. Stone, W. R. See Holness, H., 2254.

Storck, J. See Delga, J., 1979 Storozhenko, Z. I. See Baev, F. K., 2972.

Stott, F. D. Sonic gas analyser for measurements of carbon dioxide in expired air, 2830.

Stout, W. J. See Kurtz, S. S., jun., 4214. Stoutjesdijk, W. See Riemersma, J. C., 4321. Strachan, C. C., and Kitson, J. A. Method of sugar analysis for control processes, 1688.

Strachan, G. L. See Glanville, D. E., 1028. Strack, E. Paper-chromatographic analysis of homocysteine in the presence of related thioamino acids, 1633.

Štráfelda, F. See Závorka, J., 3229.

Strain, H. H. Apparatus for continuous electrochromatography, 2460. [Review of industrial applications of analysis, control and instrumentation.] Chromatography. Analysis by differential migration, 2867.

Strakhov, N. P. See Kalinchenko, L. P., 3274. Strange, J. P. Potentiometric recorder for hydrogen sulphide and hydrogen cyanide, 1751.

Strasheim, A. Dependence of background associated with high-voltage a.c. arc spectra on certain parameters, 16. Straub, C. P. See Kahn, B., 717, and Setter, L. R.,

2540

Strauch, L. Reflectometric evaluation of electrophoresis bands. Apparatus for horizontal paper electrophoresis, 3959.

Straus, R. See Wurm, W., 1956. Straus, S. See Stromberg, R. R., 3812.

Strause, B. M. See Thompson, B. A., 4036.

Streil, C. Analysis of hard metal and cutting metal. 3989

Strekalova, O. S. See Toropova, V. F., 3753. Streuli, C. A. Basic behaviour of molecules and ions in acetic anhydride, 3247.

Strickland, J. D. H., and Risk, J. B. Absorptiometric determination of sulphide in sulphate black liquor,

See also Spicer, G. S., 4019.

Strickland, R. D., and Maloney. C. M. Determining serum protein-bound iodine, 1646.

Striganov, A. R. Analytical curves in isotopic spectral analysis, 2877

Gavrilov, F. F., and Efremov, S. P. Quantitative spectrographic analysis of the isotopic composition of enriched uranium, 1505.

— See also **Dontsov**, Yu. P., 355. Strode, C. W., jun., Stewart, F. N., Schott, H. O., and Coleman, O. J. Determination of salicylic acid in

aspirin, 232. Stroe, A. See Pirtea, T. I., 393.

Stromberg, R. R., Straus, S., and Achhammer, B. G. Infra-red spectra of thermally degraded poly-(vinyl chloride), 3812.

Stross, F. H. See Dimbat, M., 1070. Struck, H. Separations of oestrogens by paper chromatography, 3862.

Strunk, D. H. See Manna, L., 1456. Stuart, E. R. Simple fan-scale, 2053. Stuffins, C. B. Determination of a non-ionic

detergent in soap mixtures, 3412.

Stull, D. R. Automatic adiabatic low-temperature calorimeter, 747.

Stumpi, K. E., and Gonsior, T. [Colloquium Spectro-scopicum Internationale VI. Amsterdam, 1956.] Mutual influence of the emission of sodium and potassium in their flame-photometric determination, 1435.

Stupnikova, N. I. See Zýkov, S. I., 1159. Styunkel', T. B., and Yakimets, E. M. Acid Chrome dark blue and Acid Chrome blue K as indicators

in the complexometric determination of calcium, 3275.

Subrahmanyan, V. See Desikachar, H. S. R., 1365. Subramanian, D. See Lakshminarayanan, K., 2277. Suchý, K. Analytical separation and detection of flavianic acid and rubeanic acid [dithio-oxamide], 3787

Sudario, E. Chromatographic detection of sorbic acid used as a preservative in beverages, 2794.

Südhof, H. See Schönenberger, M., 1640.
Sudo, T., Hamakawa, T., and Kubota, M. Colorimetric determination of a small amount of phosphorus with molybdenum blue and quinol, 2588

Shimoe, D., and Tsujii, T. Semi-micro determination of acetyl and methyl groups attached to carbon. I. The titration and distillation of acetic acid, 1876; II. Determination of acetyl

and C-methyl groups, 1876. Sugano, T. See Suzuki, S., 3043. Sugár, E. See Szekeres, L., 3310. Sugawara, K. See Naitô, H., 3185. Sugihara, K., and Saito, T. Polarographic determination of traces of iron in reagent-grade sodium chloride and caustic alkali, 3738.

Sugishita, N. See Kiba, T., 2964. Sugiyama, T. See Okada, K., 4105. Suk, V., and Malát, M. Catechol violet, 3969.

Sukhenko, K. A. See Moiseeva, K. A., 2582. Sukhenko, N. S. See Reishakhrit, L. S., 377.

Sulcek, Z. Analysis of metals and minerals. III. Polarographic determination of vanadium in minerals, 809.

and Gottfried, J. Analysis of metals and minerals. I. Polarographic determination of

germanium, 2567.

Sullivan, L. J., Fries, R. J., McClenahan, W. S., and Willingham, C. B. Determination of physical properties on small samples of high-boiling hydrocarbons, 899.

Sulman, F. G. Semi-micro routine determination of urinary 17-hydroxycorticosteroids, 4268.

Sulser, H. Circular paper chromatography, 1036. and **Högl, O.** Distinction between animal and vegetable fats, 2404.

Sun, S.-C., and Holzmann, R. T. Polarographic determination of xanthates in flotation liquors, 885.

- Love, D. L., and Holzmann, R. T. Polarographic estimation of starch and its application in flotation, 4308.

Sundaram, A. K., Sundaresan, M., and Vartak, D. G. Ion-exchange method of estimating carbonate in the presence of uranium and vanadium, 60.

Sundaresan, M. See Sundaram, A. K., 60, and

Balasundaram, S., 267.
Sunderman, D. N. Radiochemical separation procedures for barium, calcium, strontium, silver and indium, 2542.

and Meinke, W. W. Evaluation of radiochemical separation procedures, 1421.

Sundt, E. See Winter, M., 1754.

Suomalainen, H. See Salo, T., 2399.

Suprun, P. P. Quantitative determination of Rivanol (lactoacridine) with iodine chloride, 1977. Surichan, T. A. See Poluéktov, N. S., 68.

Surkov, Yu. A., and Moskaleva, L. P. apparatus and methods of measurement in radiochemical investigations, 1420.

Susi, H., Koenig, N. H., Parker, W. E., and Swern, D.
Infra-red identification of sulphur derivatives

of long-chain fatty acids, 2688.

Sušić, M. V. Separation of tellurium, ruthenium, caesium and rare earths from one another, using anion-exchange resin Dowex-1, 821. Polarographic - amperometric determination of mercury, silver, gold, iron and vanadium. Determination of vanadium in uranium, 827. Separation of uranium from rare earths and other elements in sulphuric acid, using anion-exchange resin, 829.

- and Jelić, N. Separation of uranium from rare earths and other elements by solvent extraction with tributyl phosphate, 828.

Suslova, E. A. See Maslova, G. B., 357. Sutcliffe, G. R., and Peake, D. M. Spectrophotometric determination of nickel in copper - nickel alloys, 2654.

Suter, H., and Hadorn, H. Micro-determination of chloride, 4109.

See also Hadorn, H., 984.

Sutherland, E. W. See Berthet, J., 2730. Suthers, J. See Fremlin, J. H., 2625.

Sütö, J. See Holló, J., 3164.

Suzdal'tseva, S. F. See Shatenshtein, A. I., 353, 714. Suzuki, A. See Sakaguchi, T., 3502.

Suzuki, H. See Matsui, R., 554, and Yasui, E., 553, 2260, 4167, 4326.

Suzuki, Masami, and Hirano, S. Determination of mercury in brine, sodium hydroxide and hydrochloric acid, 2912.

Kondo, Hiroshi, and Hirano, S. Determination of a minute amount of magnesium in brine, 3627.

Suzuki, Mizue. See Kono, T., 3011.

Suzuki, S., Harimaya, K., Tsuji, N., and Yamaoka, N. Determination of sulphate by metal - polyphosphate reduction, 2969.

Harimaya, K., Ueno, M., Tsuji, N., and Yamaoka, N. Oxidimetric and reductimetric titrations in neutral solutions. (Sodium triphosphate as masking agent in volumetric analysis), 3196.

Muramoto, Y., Ueno, M., and Sugano, T. Determination of nitro compounds with titansumIII - polyphosphate solution. (Polyphosphate for masking in volumetric analysis), 3043.

Suzuki, Yasuo. See Kimura, Kenjiro, 2922.

Suzuki, Yukio, Nishiyama, K., Matsuka, Y., Kuwai, S., Oe, M., Hujiwaka, H., Wakatsuki, T., Nakanishi, T., and Doi, M. Spectrophotometric determination of traces of selenium, 1499.

Švácha, F. See Kulčickyj, I., 3741

Svanks, K. See Krumin, P. O., 3411.

Svehla, G. See Erdey, L., 385.

Svennerholm, L. Quantitative estimation of sialic acids [neuraminic acids]. I. Colorimetric method with orcinol - hydrochloric acid (Bail's) reagent, 198; II. Colorimetric resorcinol - hydrochloric acid method, 198; III. Anion-exchange-resin method, 3841. Determination of hexosamines with special reference to nervous tissue, 1618.

Sverak, J., and Reiser, P. L. Gas-chromatographic detection of small amounts of ether in ethylene. Gas-chromatographic determination of very small amounts of carbon disulphide in carbon dioxide and inert gases after enrichment, 3660.

Svishchuk, A. A. See Savinov, B. G., 721.

Svoboda, V. See Körbl, J., 2498

Swan, J. D. See Malkemus, J. D., 1898.

Swank, R. K. See Buck, W. L., 4405.

Swann, D. A., and Williams, D. A. Apparatus for the micro-determination of oxygen, nitrogen and hydrogen in titanium and other metals, 2154.

Swann, M. H. Micro-colorimetric method for o-phthalates, 887. Direct colorimetric determination of nitrocellulose in lacquers, 924. Determination of cellulose resins in coatings by colorimetric cellulose analysis, 926.

and Esposito, G. G. Determination of melamine formaldehyde resins in coatings, 925. Detection of urea, melamine, isocyanate and urethane resins. Group test for nitrogen, silicon, phosphorus and titanium in coating materials, 1936. See also Esposito, G. G., 1583.

Sweeney, J. P., and Williams, H. L. Colorimetric determination of cyclethrin [2-methyl-4-oxo-3-(cyclopent-2-enyl) cyclopent-2-enyl chrysanthemum-monocarboxylate], 2432.

Sweeney, J. T. See Chittum, J. W., 4182.

Swern, D. See Silbert, L. S., 2681, and Susi, H., 2688

Swietosławska, J., and Held, S. 'Single addition method' in trace spectral analysis. I. Quantitative determinations, 2837; II. Application of linear extrapolation to semi-quantitative determinations, 2837.

Swift, E. H. See Bowersox, D. F., 4017. Swinehart, J. See Smith, R. N., 4057.

Sykut, K. Micro-determination of organic compounds with a relaxational coulometer. II. Micro-determination of phenol and cresols, 1265; III. Determination of plant-growth-regulating substances, 1394.

Symons, M. C. R., and Townsend, M. G. Adaptor for the determination of spectra at low temperatures, 1408.

Synek, L., and Večeřa, M. Quantitative organic analysis. XI. Cobalto-cobaltic oxide as a combustion catalyst in elementary analysis, 851.

 See also Vecera, M., 3008, 3359.
 Synge, R. L. M. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Recent progress in separating substances of high molecular weight, 2478.

Syrrist, G. See Solberg, P., 1987.

Sýtinskii, I. A. Paper chromatography of purine and pyrimidine bases, 633.

Szabadváry, F. See Erdey, L., 464, 3317.

Szabó, C. See Kellner, A., 70. Szabó, G. See Barna, S., 2326.

Szabó, I. See Szilágyi, I., 3122.

Szabó, P. See Zemplén, J., 1048.

Szabó, Z. G., Beck, M. T., and Toth, K. Colorimetric determination of the fluoride ion based on interference with extractability, 3730.

Szabó, Z. L. See Schulek, E., 4250.

Szádeczky-Kardoss, G. See Benkő, I., 590, and Ferenczy, Z., 1457.

Szalai, L. See Szőke, S., 2735.

Szalontai, K., and Szendrey, I. Coulometric titration with constant voltage. Standardisation of a new current- and voltage-stabiliser, 759.

Szarvas, P., Jarabin, Z., and Dede, L. Rutin as an inorganic analytical reagent. I, 341.

Szegedi, B. See Juhász, B., 3552 Szekely, I. J. See Kumler, W. D., 1349.

Szekeres, L. Iodimetric studies. III. Simultaneous determination of iodate and periodate ions, 2629; IV. Determination of iodide ions in the presence of bromide ions, 2628. Titrimetric determination of bromide ions, 3731.

and Bakács (née Polgár), E. Determination of alkali hydroxides in the presence of alkali carbonates by precipitation, 1115. Determination of alkali hydrogen carbonates in the presence of alkali carbonates by precipitation, 3265.

Kardos, E., and Rady, M. Determination of iodate and periodate ions in the presence of each

other, 4111.

- Molnár, L. G., and Nagy, M. Data for hydrazinometric measurements. Titration of bromate,

Sugár, E., and Pap, É. Bromatometric analyses.

I. Determination of compounds of arsenic^{III} and antimony¹¹¹ with bromate, 3310.

See also Bakács (née Polgár), E., 1815, 2517,
 Kellner, A., 70, and Molnár, L. G., 3021.
 Szendrey, I. See Szalontai, K., 759.

Szent-Gyorgyi, A. Detection of chromatographic spots in paper, 2087.

Szerl, J. C., McLeod, D. P., Moya, F., and McCurdy, D. H. Determination of morphine in blood and tissues, 3437.

Szikora, G. See Török, T., 1435.

Szilágyi, I., and Szabó, I. Microchemical determination of Sakaguchi-positive antibiotics, 3122.

Szöke, S., and Szalai, L. Quantitative evaluation of paper chromatograms of amino acids by the Zeiss leucometer, 2735.

Szonntagh, J., and Rozmanith, J. Polarographic investigation of gallium, 1469

Szulczewski, D. E., and Higuchi, T. Gas-chromatographic separation of permanent gases on silica gel at reduced temperatures, 778.

Szymanski, H. A., and Conley, R. T. Electrolytic lifting of films from metals for infra-red analysis,

T

Tabata, Y. See Yamaguchi, K., 3110.

Tabau, R. L. See Vigne, J. P., 730, 731, 2820.

Tabeling, R. W. Spectrographic determination of oxygen in metals, 813.

Tabushi, M. See Ishibashi, Masayoshi, 1213.

Tadano, H. See Nakano, K., 4394.

Tadayon, J. See General Instruments Co. Ltd., 4371. Argentimetric determination of Tagliarini, G. tetraethyl-lead, dichloroethane and dibromoethane in anti-knock mixtures, 3047.

Taguchi, K. See Sakaguchi, T., 3502 Taguchi, Y. See Ishihara, Y., 2525, 20 See Ishihara, Y., 2525, 2932.

Tai, H., and Underwood, A. L. Infra-red spectro-photometry of sulphate ion. Combining freezedrying with potassium bromide disc technique, 818

Tai, S.-K. See Kao, S.-S., 487.
Taimni, I. K., and Lal, M. Systematic scheme of qualitative analysis for anions. I, II, 2077.

Tait, P. C. See White, T. T., 2660.

Takagi, T., and Hayashi, N. Micro-determination of nitrogen in organic compounds by strong phosphoric acid - iodic acid decomposition method, 542

Takahashi, M., Kawane, M., and Mitsui, T. Determination of oxygen in titanium by the micro bromination method, 1483.

Takahashi, N. See Egami, F., 1829.

Takahashi, Takeo, Niki, E., and Sakurai, H. Automatic continuous coulometric titrimeter. Design and construction, 4386; II. Working conditions, 4386.

Takahashi, Tetsuzo, and Kono, K. Determination of vitamin A in small amounts of plasma, 3836.

Takashima, Y. See Ishimori, T., 436.
Takayama, Y. Determination of amines in a queous solutions by extraction with chloroform, 564. Determination of hydroperoxide in methyl methacrylate monomer, 1297. Determination of anionic and non-ionic surface-active agents in aqueous solution, 1925.

and Kadota, S. Colorimetric determination of vinyl acetate in copolymers with vinyl cyanide,

See also Takeuchi, T., 3063.

Takei, F., Murai, K., and Akazome, G. Determination of higher alkylketen dimers with bromine, 3022

Takei, S. Synthesis of derivatives of dithizone and their application to analytical chemistry. II. oo'-Dimethyldithizone for the determination of mercury and copper, 2550.

and Kato, T. Syntheses of derivatives of dithizone and their application to analytical chemoo'-Dimethyldithizone II. for determination of mercury and copper, 767.

Shibuya, K., and Kato, T. Syntheses of derivatives of dithizone and their application to ana-I. pp'-Dimethyldithizone, lytical chemistry. 767.

- See also Kato, T., 795.

Takeshita, T., and Kitajima, M. Quantitative analysis of terpenes by infra-red spectroscopy. III. Infra-red spectrophotometric determination of borneol and isoborneol, 3037.

Taketatsu, T. Chemical analysis with EDTA. IV. Indirect titration of potassium, 361.

Takeuchi, Hidenaga. See Kawashiro, I., 2394.

Takeuchi, Hironori. See Iinuma, H., 3643.

Takeuchi, T., and Furusawa, M. Determination of

anthracene by the diene method, 2698.

Furusawa, M., and Takayama, Y. Determina-tion of acid amides in methyl methacrylate processing, 3063.

Takeyama, S. See Gotô, H., 3297.

Takeyama, S. See Goto, L.,
Taki, S. See Kiba, T., 1874.
Takiguchi, T. See Hirata, F., 3012.
Takiura, K., Masui, M., and Watanabe, Terumi.
High-frequency titration. XVII. Highfrequency titration of nickel involving chelation,

Talalay, P. See Hurlock, B., 665.
Talenti, M. See Valori, P., 1382.
Talluto, K. F., Benerito, R. R., and Singleton, W. S. Dyeing method for quantitative determination of lipids and lipoproteins directly on filter-paper

[electropherograms], 4247. Tälmaciu, R. See Sterescu, M., 708.

Talmi, A. See Harel, S., 1112.
Tamm, J., Beckmann, I., and Voigt, K. D. Determination of neutral steroids in human blood,

Tamura, S. See Shindo, H., 1564. Tan, W. See Wilcox, P. E., 2339. Tanabe, T. See Muraki, Ichiro, 2986.

Tanaka, Masao. Controlled potential electrolysis. Apparatus and general procedure, 2066; Electrolysis in hydrochloric acid solution, III. Electrolysis in sulphuric acid solution, 2066; IV. Electrolysis in nitric acid solution, 2066; V. Electrolysis in tartaric acid solu-tion, 2066; VI. Electrolysis in ammoniacal solution, 2066; VII. Electrolysis in cyanide solution, 2066.

Tanaka, Motoharu. Precipitation of hydrated oxides at constant pH; application to the micro-analysis of chromium and molybdenum, 3711.

Tanaka, N., and Koizumi, T. Polarographic determinations of minute quantities of lead in highpurity zinc using the rotated dropping mercury electrode, 1134.

Koizumi, T., Murayama, T., Kodama, M., and Sakuma, Y. Rotated dropping mercury electrode in polarographic analyses and amperometric titrations of micromolar solution, 3232.

Tanaka, S. Infra-red absorption spectra of o- and p-alkylphenols, 569.

and Arakawa, H. Determination of tertiary amines in xylidine fractions with infra-red spectra. III. Isolation and determination of 2:3-cyclopenteno-6-methylpyridine, 575.

and **Ogawa**, M. Quantitative analysis with nfra-red spectra. VII. Determination of a infra-red spectra. mixture of J- and y-acid and of amino-J and amino-G acid with potassium bromide disc method, 592.

Ogawa, M., Myamoto, Y., and Yoshimi, N. Analytical chemistry of urea resins. IV. Determination of mono- and di(hydroxymethyl)urea in an initial condensation mixture by means of infra-red absorption spectroscopy, 2721.

Tanaka, T. See Iritani, N., 400, 1137, 3702.

Tanaka, Y., and Ito, K. Colorimetric determination of copper by the use of zinc diethyldithiocarbamate, 2890.

Tananaev, I. V. [Reviews of Russian analytical chemistry.] Physico-chemical analysis of analytical systems, 1082.

and Bausova, N. V. Gallium ferrocyanides and their analytical use, 3651.

and Shcheglova, E. P. System of beryllium sulphate - sodium hydroxide - water and its analytical application. [Determination of beryllium in the presence of large amounts of aluminium by

means of 8-hydroxyquinoline], 2901.

Tananaev, N. A., and Ganago, L. I. Determination of colouring matter in glass by surface treatment.

(Determination of chromium), 84. and Smyshlyaev, S. I. Decomposition of silicates with ammonium fluoride, 4038.

 See also Ganago, L. I., 31.
 Tananaeva, A. N. Theory of the testing of alloys by surface treatment, 3761.

Tandon, J. P., and Mehrotra, R. C. Bivalent chromium salts. I. Standardisation of chromous solutions with ferric and cupric salts, using visual indicators, 1760; II. Reduction of dyestuffs with chromous sulphate, 2295; III. Standardisation of chromous sulphate solution against common oxidising agents, 3320: IV. Determination of persulphate, hydrogen peroxide, and dissolved oxygen in water, 3320.

Tandon, S. G., and Patel, C. C. Spectrophotometric investigations on the iron 1111 - morellin complex, 1214.

Tang, T.-H. See Tsao, K.-H., 76. Tani, I. See Yoshioka, T., 2786.
Tanihara, H. See Endo, Y., 387.
Tanner, H. See Rentschler, H., 2395, 4315.

Tantivatana, P., and Wright, S. E. Estimation of digoxin and digitoxin in Digitalis lanata, 4278. Tao, T.-N. See Yen, J.-Y., 4115.

Tappi, G., Andreoli, E. M., and Frea, E. Determination of mixtures of steroid hormones in oily solution, 4285.

Tarantsova, M. I. See Belyaeva, V. A., 2579.Tarasevich, N. I., and Shuvalova, L. V. [Conference on Methods of Analysis of Rare and Non-Ferrous Metals. Moscow, 1956.] Spectrographic determination of iron, titanium and tin impurities in tantalum pentoxide, 1442.

Zheleznova, A. A., and Semenenko, K. A. Spectrographic determination of tanatalum impurity in niobium pentoxide, 468.

— See also Lomakina, L. N., 1442, 2220. Taraszka, A. J., and Marcus, A. D. Isolation and determination of Trasentin (2-diethylaminoethyl diphenylacetate hydrochloride) [adiphenin hydrochloride] in solutions, 3889.

Tarutani, T. See Iwasaki, I., 519, 2971, 4079. Tarver, H. See Debro, J. R., 3098.

Tashian, R. E. Determination of L-tyrosine as tyramine in urine, 202.

Tasman, J. E., and Berzins, V. Permanganate consumption of pulp materials. I. Development of a basic procedure. II. KAPPA number. III. Relationship of the KAPPA number to the lignin content of pulp materials, 2297.

Tasuda, K. See Mutaguchi, M., 1797. Tate, A. E. See Eynon, L., 258. Tate, A. E. See Eynon, L., 258. Taterka, M. See Levine, V. E., 2321.

Tatt, L. K., and Farmilo, C. G. Determination of papaverine and narcotine with ammonium reineckate, 2755.

Tattje, D. H. E. Colorimetric determination of citral with 3:5-dinitrobenzoic acid, 2293. Chemical assay of Digitalis purpurea leaves, 3118. Colorimetric estimation of digitalis glycosides,

Tatwawadi, S. V. See Bapat, M. G., 2490.
Täufel, K., and Behnke, U. Determination of citric acid. II. Behaviour of triethyl citrate,

and Müller, K. Oxidimetric determination of sorbitol in wine with paper chromatography, 989. Analytical and paper-chromatographic investigation of the sugars of honey and artificial honey, 1361

Tavaszy, L. See Láng, B., 2763.

Taveira Magalhães, M. See Gottlieb, O. R., 3307.

Tawarada, T. See Kamada, H., 2909.

Tawn, A. R. H., and May, G. J. Paper chromatography of polyols and dibasic acids, and the analysis of alkyd resins, 1298.

Tayal, J. N. See Ghosh, A. K., 4279, and Luthra, P. N., 999.

Taylor, J. M. Spectrochemical analysis of caesium in high concentrations of sodium and iron salts, 1120.

See also Woolfolk, E. O., 1905.

Taylor, M. P. See Feinberg, J. G., 4368.

Taylor, P. B., and Clegg, L. F. L. Rejection test for raw milk, 3518.

Taylor, P. J. See Crook, A., 3570.
Taylor, R. See Eaborn, C., 2102.
Taylor, R. E. Determination of gases in metals by gasometric methods, 1101.

Taylor, W. H. Formol titrations, 200.

Tebbens, B. D. See Thomas, J. F., 1705.

Teichman, R. See Dicks, M. W., 3169.

Tejima, S. See Akagi, M., 3163. Tekemoto, N. See Emi, K., 1790.

Telep, G., and Ehrlich, R. Spectrophotometric determination of phosphorus in polyethylene terephthalate, 4221.

Tellier, R. See Nowaczynski, W., 1324.
Tempelman, D. W. See Laméris, C. L., 803.
Ten'kovtsev, V. V. Amperometric determination of sulphate ions, 1181.

Rozenblyum, E. N., Kryukova, Z. S., and Klebanova, F. M. Determination of lead sulphate in the active masses of lead accumulators, 2939.

Tenney, H. M. Selectivity of various liquid sub-

strates in gas chromatography, 1913.

Tenorová, M. See Malát, M., 2586.

Tentori, L. See Cavina, G., 3477.

Teodorescu, G. See Spacu, P., 244.
Teodorovich, I. L., and Andreeva, M. A. Potentiometric titration with a ferri-ferrocyanide electrode. I. Determination of copper, 371. See also Abramov, M. K., 1356.

Terenin, A. N., and Sidorov, A. N. Colloquium Spectroscopicum Internationale VI. Amsterdam, Infra-red spectra of phthalocyanines 1956.1 with different central metal atoms, 1435.

Terent'ev, A. P., Obtemperanskaya, S. I., and Buzlanova, M. M. Quantitative semi-micro determination of acrylonitrile [vinyl cyanide], 566. Potentiometric determination of vinyl cyanide by means of sodium sulphite, 3783.

See also Obtemperanskaya, S. I., 2256.

Ternikova, R. M. Qualitative reactions for pethidine, methadone and trimeperidine (1:2:5trimethyl-4-phenyl-4-propionyloxypiperidine hydrochloride), 1681.

Terrey, H., and Thabit, J. Electrolytic determination of indium, 3653.

Terriere, L. C. See Brokke, M. E., 3554. Terzijská, D. See Körbl, J., 2498. Tesařík, K. See Janák, J., 2826. TeSelle, L. D. See White, T. T., 2660

Tevlina, A. S. See Trostyanskaya, E. B., 1046,

Textile Institute, Technical Committee, Tentative textile standard No. 48, 1957. Quantitative chemical analysis of binary mixtures of polyamide fibres and other fibres, 3058. Tentative textile standard No. 49, 1957. Quantitative chemical analysis of mixtures of viscose rayon and cotton, 3059.

Thabit, J. See Terrey, H., 3653.
Thain, E. M. See Abraham, M. H., 2676.
Thang-soo, W. See I-djen, H., 1435.
Thatcher, L. L. Zirconium - Eriochrome cyanine R determination of fluoride, 1206.

and Barker, F. B. Determination of uranium in natural waters, 1385.

See also Barker, F. B., 1386.

The, T. P., Fleury, P., and Vink, C. L. J. Determination of phenylpyruvic acid in the urine of patients with oligophrenia phenylpyruvica, 2322.

Thege, I. K. See Pungor, E., 3272.

Theodore, M. L. Determination of tantalum in niobium, 2961.

Therattil, K. J. See Verma, M. R., 40, 2538.

Thibert, R. See Goodwin, J. F., 4248.

Thiel, H. E. van, and Tucker, W. J. Determination of magnesium in mixed fertilisers, 727. Thieme, J. G. See Kaufmann, H. P., 3153.

Thienpont, R. A. J. See Bloch, L., 2180.

Thies, H., and Sorgenfrey, C. H. Spectrophoto-metric determination of alkaloids in the ultraviolet range at 2537 A, 3874.

Tholozan, A. See Nordmann, R., 3089. Thoma, J. A., and French, D. Paper chromatography of homologous saccharides. Selection of solvent components and solvent proportions, 1253.

Thomas, A. M. See Loveridge, B. A., 1389.
Thomas, F. G. See Duncan, J. F., 1109.
Thomas, J. F., Tebbens, B. D., Mukai, M., and Sanborn, E. N. Determination of aromatic hydrocarbons in polluted air, 1705.

Thomas, M. Apparatus for thermal analysis, 2848. Thomas, W. H. See Powell, H., 3797. Thompson, A. R. See Chao, T.-T., 1252. Thompson, B. A., Strause, B. M., and Leboeuf, M. B.

Gamma-spectrometric and radiochemical analysis for impurities in ultra-pure silicon, 4036.

Thompson, C. J., Coleman, H. J., Ward, C. C., and Rall, H. T. Separation of organic sulphur compounds by liquid thermal diffusion, 1284.

Thompson, H. W. Spectrophotometry in industrial chemistry, 2876.

Thompson, Jean K., and Wilson, C. L. Microgram chemical analysis. V. Separation and identification of cerium, thorium, lead, calcium, strontium and barium, 798.

Thompson, Joseph K. Determination of aerosol size distributions by jet impactor - light scattering

technique, 1707.

Thompson, R. H. Estimation of the oral hypoglycaemic agent carbutamide in blood, 3085 Thouvenot, J., Flavian, N., and Weber, R. Colorimetric method of determination of histamine,

Thrasher, J. J., and Kurtz, O. L. Identification of stored-products insects by the micromorphology of the exoskeleton. IV. Adult legs, 1000.

Thurnau, D. H. Gamma absorptiometer for solutions of heavy-metal salts, 2475.

Tiberio, M. Extraction, chromatographic separation and quantitative colorimetric determination of galegine, 1963.

fien, P.-S., and Wang, K. Ammonium phenyl-dithiocarbamate and ammonium phenylhydrazinodithioformate as reagents for cupric ions, 365. 5-Aminothiazoline-2-thiocarboxyamide used as analytical reagent. I. Detection and determination of palladium, 4145.

Tien, T.-C. See Kao, S.-S., 4400.
Tierney, S. E. See Pohle, W. D., 1992.
Tikhvinskii, S. B. See Dembo, A. G., 930.
Tilicheev, M. D., and Goisa, E. I. Cryoscopic deter-

mination of material not reacting with sulphuric acid in aromatic hydrocarbons, 1263.

Tillem, H. B. See Carroll, B., 4375. Tillotson, J. A. See Schlenk, H., 2405. Timnick, A. See Johnson, A. H., 4399. Tingey, F. H. See Goris, P., 1190.

Tingle, W. H., and Matocha, C. K. Spectrochemical analysis of non-metallic samples. Pellet-spark technique with a multi-channel photo-electric spectrometer, 3214.

Tiptsova, V. G. See Gallai, Z. A., 1176.

Tischendorf, G. See Kühnhanss, G., 1283, 2279. Tiselius, A. future, 3253. Electrophoresis, past, present and

Tkachenko, N. S., and Sakunov, V. I. Determination of arsenic in iron - manganese ores and agglomerates, 4067.

Toba, Y. See Kumaoka, S., 3078. Tockstein, A., and Novák, V. Separation and determination of small amounts of barium in the presence of strontium and calcium, 3635.

Toda, S. See Kamada, H., 523.
Todd, J. E. See Kaufman, J. J., 50.
Todd, R. See Clayton, R. F., 2194.
Toei, K. Solubility of some potassium, rubidium

and caesium compounds, 2521.

See also Emi, K., 1790.

Tokár, G. See Simonyi, I., 2267. Tokarev, I. I., and Novachok, A. I. Colorimetric determination of silica in ores and agglomerates,

Tokui, T. See Iwasa, K., 1599.

Tolbert, B. M. Ionisation-chamber assay of radio-

active gases, 1422.

Tolbert, N. E. See Rabson, R., 3091.

Tölgyessy, G., and Schiller, P. Determination of silver, palladium^{II} and copper^I by radiometric titration, with iodine-131 as indicator, 2530.

Tölgyessy, J. Analysis by isotopic dilution, 3985. Majer, J., and Schiller, P. Radiometry in pharmaceutical analysis, 217.

— See also Schiller, P., 2106.

Tolstikov, G. A. See Gladyshev, V. P., 1202.

Tomásch, E. See Majer, J., 1514.

Tomic, E., and Khalifa, H. Photometric determination of thorium with quercetin, 1487.

Tomilov, B. I. See Portnov, M. A., 579.
Tomimatsu, Y., and Launer, H. F. Determination of total oxidising power of buffered chlorous acid solutions, 839.

Tomingas, N., and Cooper, W. C. Spectrographic determination of palladium in Doré metal, 3004.

Tomioka, S. See Kawabata, H., 3090.
Tomlin, D. H. See Capindale, J. B., 2160.
Tomoda, M. See Akiya, S., 3017.
Tomoda, M., and Onozaki, H. Colorimetric determination of fusel oil. I. Determination of higher alcohols in fusel oil with anisaldehyde sulphuric acid reagent, 3016.

Tompsett, S. L. Determination of esterified (unsplit) fat in faeces, 645. Identification and determination of phenols and phenolic acids in urine, 3449. Determination and excretion of polyhydroxy (catecholic) phenolic acids in urine, 4242.

Toms, A. See Higgons, D. J., 292.
Tomura, K. See Hamaguchi, H., 3650.
Tomura, S. See Matsuura, N., 461.
Tooth, B. See Rimington, C., 1606.
Toplis, L. G. See Lyons, J., & Co., Ltd., 2033.
Toren, P. E., Goodhue, D. L., Kirkham, W. R., and Howell, D. E. Determination of small quantities of 2:3-4:5-bis(Δ2-butenylene)tetrahydrofurfural

(repellent R-11) in milk, 2809. Török, T., and Szikora, G. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956.] Spectrographic determination of carbon in steels,

1435.

Toropova, V. F., and Strekalova, O. S. Amperometric determination of cobalt in magnet alloys,

Torres, J. C. See Cabo Torres, J.
Torres, J. F. Direct determination of total cholesterol in serum, 2747. Determination of free cholesterol in serum without extraction, 4262. **Tóth, J.,** and **Gráf, L.** Determination of the helium

and hydrogen content of natural gases with elution chromatography, 2100.

— See also **Gráf**, L., 1765. **Tóth, K.** See **Szabó**, **Z. G.**, 3730. **Toubol, V.** Recognition of parathion-methyl in the

presence of parathion, 2428.

Towne, J. C., Rodwell, V. W., and Grisolia, S.
Micro-estimation, distribution and biosynthesis of 2:3-diphosphoglyceric acid, 195.

Townsend, M. G. See Symons, M. C. R., 1408. Trabanelli, G. See Bighi, C., 1094, and Cavallaro, L., 1773.

Traiter, M. Chromatography of non-volatile organic acids, 3024.

Trams, E. G. Determination of di-(2-choroethyl)amines and related compounds with 8-quinolinol [8-hydroxyquinoline], 2248.

Trattner, E. Determination of unhydrated magnesia in dolomitic lime hydrates, 1459.

Trego, K. See Silverman, L., 1131, 2541. Trenner, N. R. See Arison, B. H., 4335. Treves, D. See Frei, E. H., 1736.

Trichtel, F. See Pillat, A., 1306.

Tripathi, S. C., and Prakash, S. Composition of cupric o-cresotate [2-hydroxy-m-toluate] chelates: a colorimetric study, 4002. Complex formation of uranyl ion with o-cresotic [2-hydroxy-m-toluic] acid: potentiometric, colorimetric and conductimetric study, 4098.

Trisler, J. C. See Shine, H. J., 2486.

Trnka, J. Determination of calcium as luminescence activator in alkali-halide crystals, 792.

Trobisch, K. Conductimetric titration, 2501.

Troitskii, K. V. Extraction of the thiocyanate complexes of niobium by organic solvents by means of the radioactive isotope %Nb, 467.

Tromans, F. R. See Corbridge, D. E. C., 4063. Trombitas, R. W. See Chiccarelli, F. S., 1013.

Tromp, R. L. See Frazer, J. W., 3266. Trompler, J. See Schulek, E., 3392.

Trostle, K. E. See Kane, L. J., 2288.

Trostyanskaya, E. B., Losev, I. P., and Tevlina, A. S. Ion-exchange resin membranes, 1046.

and Tevlina, A. S. Selective ion-exchange sorbents for chromatographic analysis, 1092.

Troupe, R. A., and Golner, J. J. Process control in the chlorination of benzene, 2284.

Troy, D. J. [National Conference on Instrumental Methods of Analysis. Chicago, 1957.] Multi-

component photo-electric analysis, 1725.

Trozzolo, A. M. See Ungar, A., 2282. Truffert, L. See Moureau, H., 2150.

Truhaut, R., and Boudene, C. Micro-determination of thallium in biological media by enrichment and polarography, 3080.

— See also De Clercq, M., 3113. Truter, E. V. See Milburn, A. H., 1980. Tsao, K.-H., Loo, Y.-C., and Tang, T.-H. Polarographic determination of arsenic, 76.

Tsao, M. U. See Sethna, S., 1641.
Tschapke, H., and Plessing, H. Quantitative chromatographic separation of vitamins A and D with kaolin, 268. Tschudi-Steiner, I. Identification of sulphonamides

by fluorescence microscopy, 4302.

Tserkovnitskaya, I. A. See Morachevskii, Yu. V., 1196, 1197.

Tsimbler, M. E., and Derenovskii, V. I. Volumetric determination of lead with internally complexed compounds, 1479.

Tsintsevich, E. P. Separation of zinc from aluminium by ion exchange, 395.

and Nazarova, G. E. Separation of gallium from lead and cadmium by ion exchange, 1147.

Tskeuchi, N. See Kumagami, A., 1959.

Tsuchiya, M. Determination of nitrogen in metals by combustion method. I. Nitrogen and carbon in steel and titanium, 3678; II. Nitrogen and carbon in ferro-alloys, 3678.

Tsuji, N. See Suzuki, S., 2969, 3196. Tsujii, T. See Sudo, T., 1876.

Tsÿb, P. P. See Lÿsenko, V. I., 1468. Tsÿvina, B. S., and Vladimirova, V. M. Determination of indium in sphalerite concentrates by amperometric titration with Complexone III, 4028

Tuck, D. G. Preparation of samples for α -counting by the direct evaporation of organic solutions,

Tucker, H. T. Absorptiometric determination of uranium in solutions by a thiocyanate method, 90.

Tucker, W. J. See Thiel, H. E. van, 727. Tuckerman, M. M. Ion-exchange paper in rapid separation and identification of basic amino acids. Arginine, histidine and lysine from casein hydrolysates, 2338.

See also Fleischer, K. D., 2226.

Tuey, G. A. P. Gas chromatography and its appli-

cation to perfumery materials, 3415.

— See also Campbell, H., 2093.

Tufts, B. J., and Lodge, J. P., jun. Chemical identification of halide and sulphate in sub-micron particles, 2197.

Tuller, E. F. See Moinat, P. G., 1319.

Tulus, M. R., and Ulubelen, A. Gravimetric determinations of santonin in drugs, 3119.

Tuma, H., and Sanda, V. Ascorbic acid in analytical chemistry, 3966.

Turano, C. See Fasella, P., 2504.

Turekian, K. K. Additional trace-element analyses of standard granite G-1 and standard diabase W-1, 2223.

Turgel', E. O. Iodimetric determination of gallic acid, 573.

Turkel'taub. N. M., and Zhukhovitskii. A. A. Theory of chromatographic gas analysis, 1090. Chromatothermographic universal apparatus for the analysis of complex gaseous mixtures, 1743.

Turkevich, A. See Hamaguchi, H., 3723.

Turner, B. M. Ionophoretic and chromatographic analysis of single dust particles, 3174. Quantitative microscopic ionophoresis and chromatography, 3958.

Turner, T. J., and Eales, L. Quantitative determina-tion of cholesterol in serum with toluene-psulphonic acid, 1648.

Turovtseva, Z. M. Determination of gases in ferrous metals, 2990.

and Khalitov, R. Sh. Determination of oxygen

and hydrogen in titanium, 2946.

Litvinova, N. F., Mikhailova, G. V., Noskov, A. S., and Khalitov, R. Sh. Apparatus for determining the gas content of metals, 1068.

— See also Mikhailova, G. V., 484.

Turowska, A., and Jedrzejczyk, B. Chromatographic analysis of coal gas, 3408. Chromatographic determination of ethylene in coal gas, 3409. Tusche, K.-J. See Bode, H., 1772.

Tutundžič. P. S. Coulometry and the coulomb as a

universal primary standard, 2875. Tyas, R. H. [Colloquium Spectroscopicum Internationale VI. Amsterdam, 1956. Composite procedure for the spectrographic determination of impurity and alloying elements in steel, 1435.

Tyler, V. E., jun. Ontogenesis of gramine in barley seedlings, 3901.

See also Jones, D. D., 223.

Tyllová, M. See Dušinský, G., 230, 3881.

U

Udenfriend, S. See Waalkes, T. P., 2739, and Weissbach, H., 3850.

Ueberreiter, K., and Krull, W. Infra-red analysis of a copolymer, 1933

See Kijima, R., 4224.

Ueno, K. Simultaneous complexometric determination of copper and mercury, 1122

Ueno, M. See Suzuki, S., 3043, 3196.

Uggla, R. Manometric determination of oxygen by oxidation of metallic copper, 470.

Ugol'nikov, N. A., and Galkin, D. E. metric determination of sulphates, 1831.

Ujejski, L. Detection and separation of pectic substances by paper chromatography and paper electrophoresis, 2387.

U.K.A.E.A. See United Kingdom Atomic Energy Authority.
Ulin, A. W., and Gollub, S. Micro-methods for

prothrombin determination. I. Watch-glass method, 637.

See also Gollub, S., 637.

Ulshafer, P. R. See Korzun, B. P., 3496. Ulubelen, A. See Tulus, M. R., 3119. Umbreit, W. W., Kingsley, G. R., Schaffert, R. R.,

and Siplet, H. Colorimetric method for transaminase in serum or plasma, 678.

Umemoto, S., and Yamamoto, Yasuhisa. Spectro-

photometric determination of iron in serum, 3824. Umeno, K. See Kawabata, H., 3090. Umezaki, Y. Determination of zinc in iron ores in

the presence of cobalt, 3636.

Umland, F., and Hoffmann, W. Separation of metal 8-hydroxyquinoline compounds between water and organic solvents. III. Photometric determination of magnesium by extraction of its oxinate with chloroform in the presence of amines, 1788.

Underwood, A. L. Spectrophotometric determination of iron with ethylenediaminedi-(o-hydroxy-

phenylacetic acid), 1855.

See also Powers, R. M., 2125, and Tai, H., 818. Ungar, A., and Trozzolo, A. M. Identification of reclaimed oils by statistical discrimination of infra-red absorption data, 2282.

Unger, E. H. Influence of olefin structure on bromine number as determined by various analytical

methods, 2674.

Unger, E. H., and Herzog, A. G. Modified Beckman Aquameter with improved precision and flexibility

of operation, 2034.

United Kingdom Atomic Energy Authority. Determination of tritium in urine, 2309. Determination of carbon-14 in reactor coolant gas, 3290. Gravimetric determination of uranium in uranyl nitrate solutions (after separation by ether extraction), 3330. Absorptiometric determination of lead in urine, 3429. Determination of iodine-131 in thyroid glands, 3431. Determination of polonium-210 in urine and other biological materials, 3434. Analysis of sodium metal and sodium - potassium alloy (collected Capenhurst methods), 3606.

Unkovskaya, V. A. Determination of small quantities of uranium by the fluorescence method, 2614.

Uno, T. See Kakemi, K., 1945.

Unterzaucher, J. Iodimetric micro- and ultramicro determination of carbon and hydrogen. Determination of the carbon to hydrogen ratio without weighing, 4156.

Upton, G. V. See Bondy, P. K., 3100.

Urbanová, L. See Hrdý, O., 2374. Urbanskii, T. Colour reaction for aldehydes, 1551. Uriel. J. Reactions for characterisation of constituents of biological liquids after electrophoresis on agar, 3468.

Uryu, T., Wada, Tadashi, and Hanyo, A. Determination of silicon content of siloxanes, 3035.

Usatenko, Yu. I., and Bekleskova, G. E. Determination of zirconium by amperometric titration with cupferron, 2947. Determination of titanium in steel by amperometric titration with cupferron, 4128.

and Klimkovich, E. A. Determination of chromium in chromites, based on oxidation by Determination of

sintering, 479.

Usmanov, Kh. U., Yakubov, A. M., and Kuchkarev, A. B. Quantitative determination of organic acids by partition paper chromatography, 4180.

— See also Abidova, Z. Kh., 4202.
Usova, M. S., and Gaeva, N. F. Organic compounds in the analysis of the platinum metals and gold. III. Phenothiazine for determining platinum in alloys, 114.

Utsumi, S. See Iwasaki, I., 507, 2971, 4079. Uzumasa, Y., Nishimura, M., and Seo, T. Ultra-

violet spectrophotometric determination of iron with ethylenediaminetetra-acetic acid, 1853.

Vacek, J., and Kráčmar, J. Titrations of acids in anhydrous pyridine, 218.

and Laštovková. M. Colorimetric determination and paper chromatography of the calcium salt of p-benzamidosalicylic acid, 241.

Vacek, O., and Leminger, O. Burette for titanimetric titrations, 300.

Vaigand, B. Potentiometric titration of molybdenum by means of silver nitrate solution, 4087. Vaillant, M. Titrations of aprotic acids (Lewis acids), 2503.

Vaisman, G. A., and Benderskaya, S. N. Quanti-tative determination of methyl salicylate in

pharmaceutical mixtures, 1676.

Valcha, J. Direct potentiometric determination of terephthalic acid in the presence of p-toluic acid in pyridine medium, 574. Determination of traces of heavy metals in the presence of large amounts of zinc and cadmium ions. II. Influence of zinc and cadmium ions on photometric determinations of iron, 2211.

Valeška, F. See Kessler, M. F., 1573, and Medek,

J., 1435. Valk, J. A. M. van der. See Dooper, R., 922.

Valori, P., and Savoini, F. Flame photometry in the analysis of natural waters. I. Determination of sodium, 713.

Talenti, M., and Savoini, F. Flame photometry in the analysis of natural waters. III. Determination of calcium, 1382.

Valyashko, N. A., and Berdichevskii, É. G. Determination of coumarin by the alkaline hydroxide

method, 1558.

Vanag, G. Ya., and Matskanova, M. A. Colour reaction for hydrazine, 449.

Van Aller, H. C. See Aller, H. C. van. Van Beneden, H. See Beneden, G. van. Van Brederode, H. See Brederode, H. van.

Vancea, M., and Voluşniuc, M. Gravimetric determination of phosphate ion in fertilisers as lead phosphate, 1719. Direct volumetric determination of phosphate in fertilisers, I, 1720; II, 1720.

Vanderhaege, H., Van Dijck, P., Parmentier, G., and De Somer, P. Isolation and properties of the components of staphylomycin, 1341.

Van der Heijde, H. B. See Heijde, H. B. van der. Van der Molen, H. J. See Molen, H. J. van der. Van der Pol, E. W. See Pol, E. W. van der. Van der Valk, J. A. M. See Valk, J. A. M. van der.

Van der Valk, J. A. M. See Valk, J. A. M. van der.
Van der Ven, B. See Ven, B. van der.
Vanderwater, J. W. See Carson, W. N., jun., 832.
Van Dijck, P. See Vanderhaege, H., 1341.
Van Dijk, C. P. See Dijk, C. P. van.
Van Dijk, G. J. See Dijk, G. J. van.
Van Duin, H. See Duin, H. van.
Vanečěk, J. See Mikeš, O., 1748.
Van Van C. H. and McCare.

Van Etten, C. H., and McGrew, C. E. Ion-exchange micro-methods for separation of fermentation acids. Determination of fumaric acid in fermentation broth, 877.

Van Gent, P. K. See Gent, P. K. van. Vango, S. P. Needle valve for micro-Dumas deter-

mination of nitrogen, 2665.

Van Handel, E., and Zilversmit, D. B. Direct micro-determination of serum triglycerides, 647. Vaníčková, E. See Buděšínský, B., 225, 2255, 2410. Van Pilsum, J. F. Creatine and creatine phosphate in normal and protein-depleted rats. [Determination of creatine phosphate], 1949.

- and Bovis, M. Effect of protein precipitants on

recoveries of creatinine added to plasma, 187.

Van Poucke, R. See Poucke, R. van. Van Severen, R. See Severen, R. van.
Van Thiel, H. E. See Thiel, H. E. van.
Van Wijngaarden, D. See Wijngaarden, D. van.
Van Winkle, Q. See Kraus, K. A., 3319.
Varchenko, T. P. See Plijpenko, A. T., 1106.

Varga, A. See Solymosi, F., 2966.

Varkey, E. T. See Pillay, P. P., 3946, and Sant, B. R., 3312, 3313.

Varma, M. C. P. Differential thermal analysis of organic solids, 3957.

Varma, T. N. R. See Balasundaram, S., 267. Varshavskii, Ya. M. See Shatenshtein, A. I., 353.

Varshavskii, Ya. M. See Snateinsnein, A. I., 303.
Vartak, D. G. See Sundaram, A. K., 60.
Vasil'ev, A. M., and Marunina, A. T. Amperometric determination of copper, 370.
Vasyutinskii, A. I. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Quantitative determination of the conference on "Some Questions of Pharmacy." mination of lead with 4-aminosalicylic acid, 1661.

Vaughan, G. A. See White, D., 588.
Vaughan, P. A. See Schwab, H., 1047.
Vdovenko, V. M. [Reviews of Russian analytical chemistry.] Extraction methods for the separation of elements, 1082.

Veach, R. See Kanabrocki, E. L., 634.

Večeřa, M., and Bulušek, J. Quantitative organic analysis. X. Micro-determination of chlorine and bromine in organic compounds, 854; XV. Micro-determination of chlorine and bromine in organic materials, 3362.
Gasparič, J., and Jureček, M. Identification of

organic compounds. XX. Addition products of alkyl benzyl sulphides and mercuric chloride,

Gasparič, J., and Petránek, J. Separation and identification of the rearrangement products of

hydrazobenzene, 2273.

Gasparič, J., and Spěvák, A. Identification of organic compounds. XIX. Micro-identification of the lower aliphatic alcohols, O-alkyl and Nalkyl groups by paper chromatography, 859.

Petranek, J., and Gasparie, J. Identification of organic compounds. XVIII. Chromatography of aromatic hydrazo compounds, 889.

and **Snobl, D.** Quantitative organic analysis. XII. Statistical evaluation of methods of organic elementary analysis, 850; XIV. Microdetermination of sulphur, 3365.

Šnobl, D., and **Synek, L.** Quantitative organic analysis. XIII. Rapid micro-determination of carbon and hydrogen in organic materials, 3359.

and Spěvák, A. Quantitative organic analysis. XVII. Determination of small amounts of chlorine and bromine in organic compounds, 2667.

and Synek, L. Quantitative organic analysis. XVIII. Micro-determination of carbon and hydrogen with cobalto'- cobaltic oxide as combustion catalyst, 3008.

See also Gasparič, J., 3370, Petránek, J., 2235,

and Synek, L., 851.

Vecsernyés, L. Spectrochemical analysis of nickel alloys for the cathodes of electronic tubes, 4138.

Veerabhadriah, N. See Bhargava, P. N., 3241. Vejdělek, Z. J. See Kakáč, B., 243.

Velasco, J., and Noll, C. R., jun, Determination of lactic acid in dried non-fat milk samples, 2783. Velich, V. Determination of 8-hydroxyquinoline-5sulphonic acid, 3887.

Velichko, N. G. See Korobova, I. A., 4061.

Velken, S. Determination of silicon in ferrosilicon, 4033.

Ven, B. van der, and Jonge, A. P. de. Preparation of optically pure light petroleum, 769.

Vene, N. See Krašovec, F., 3811.

Venkateswarlu, P., and Narayanarao, D. Determination of fluorine in waters containing excessive amounts of interfering ions, 3539.

Venner, H., and Herb, W. Detection of reducing sugars on circular paper chromatograms, 863. Quantitative estimation of reducing sugars on circular paper chromatograms, 864.

Venter, J. See Coppens, L., 3774.

Venturello, G., and Ghe, A. M. Systematic analysis of aluminium alloys, using chromatography, by elution from cellulose columns. I. Qualitative

analysis, 1798; II. Quantitative analysis, 1798.

Vepřek-Šiška, J., Šmirous, F., and Pliška, V. Inorganic nitrogen compounds. II. Determination of sodium hyponitrate, 3306. Veprik, Ya. M. See Faerman, G. P., 3858. Veraguth, A. J. See Smith, G. F., 2203.

Verboom, E. Quantitative determination of pregnane-3x: 20x-diol in urine, 348.

Verchot, E. A. See Feazel, C. E., 1581.

Verdi-Zade, A. A. Vanadatometric micro-determination of nickel, 3755.

Verghese, N. Paper electrophoresis of urinary porphyrins, 3833.

Verhage, A. See Jonge, A. P. de, 576. Verma, M. R., Agrawal, K. C., and Paul, S. D. Bromimetric determination of cinnamic acid and its derivatives, 1268.

and Bhuchar, V. M. Estimation of lithopone. I. Complexometric estimation of zinc and barium

in admixture, 1462.

Bhuchar, V. M., and Therattil, K. J. Direct chelatometric estimation of calcium or magnesium

in the presence of phosphate, 40.

Bhuchar, V. M., Therattil, K. J., and Sharma, S. S. Determination of free lime in lime and silicate products. I. Extraction of freshly ignited lime with non-aqueous solvents and determination of calcium oxide, 2131.

and Dass, R. Reverse-phase chromatography for the analysis of fat-soluble dyes, 159.

See also Bhuchar, V. M., 3670.

Verneker, V. R. P. See Purkayastha, B. C., 1784. Vernois, J. Paper chromatography of protactinium, 2962.

Vernon, J. See Lederer, M., 3697.

Vertalier, S., and Martin, F. Selective micro-determination of alkoxyl groups by gas - liquid chromatography, 4163.

Veselago, L. I. Determination of the lower oxides of titanium in the presence of bivalent iron, 440.

Vestita, A. See Pepe, T. L., 2796. Vetsch, U., and Lüthi, H. Two-dimensional paper chromatography, 4358.

 See also Fiechter, A., 3548.
 Vetter, J. L., Steinberg, M. P., and Nelson, A. I.
 Quantitative determination of peroxidase in sweet corn, 3514.

Vevera, E. Determination of cantharidin in alcoholic tinctures, 3500.

Viala, A. See Monnet, R., 4304. Vialli, M., and Zanotti, L. Two histophotometers for study of absorption curves, 1058.

Vicari, C. See Mariani, A., 4323.

Vick, M. M. See West, P. W., 1427.

Vietti-Michelina, M. Analytical separation of salicylic acid from sulphosalicylic acid, 1559. Separation of m- and p-nitrophenols by paper electrophoresis, 1562. Separation of 2:4-, 2:5and 2:6-dinitrophenols by paper electrophoresis, 1563.

Vigh, K. See Erdey, L., 1174, 1455.

Vigide, R. F. G. See Gómez Vigide, R. F.

Vigne, J. P., Tabau, R. L., Chouteau, J., and Fondarai, J. Radioactive synthesis, detection and chromatography of an organic phosphorus diethyl 6-methyl-2-isopropyl-4insecticide: pyrimidinyl phosphorothionate [diazinon]. determination in milk, 2820.

- Tabau, R. L., and Fondarai, J. Organophos-

phorus insecticides. II. Chromatography and detection of certain complex phosphoric and thionophosphoric esters, 730; III. Chromatography, half inverse-phase and half direct-phase, 730. Chromatography and detection of diethyl 4-methyl-2-isopropylpyrimid-6-yl phosphorothionate and diethyl 4-methyl-2-isopropylpyrimid-6yl phosphate, 731.

Vigvári, M. See Almássy, G., 1186.

Vil'borg, S. S., and Drozdov, V. A. Reactions for the synthesis of certain organic dyes in the qualitative analysis of anionic oxidants, 1445.

Villadsen, J. V., and Poulsen, K. G. Volumetric method for determination of tin in the presence of antimony, 2569.

Villagrán, M. del P. Sec Pilar Villagrán, M. del. Villiers-Huiban, H. Sec Courtois, J. E., 1654. Vink, C. L. J. Sec The, T. P., 2322. Vinnik, M. A., and Konnova, E. N. Mohr-Tread-

well iodimetric determination of iron in soil, 1716. Vinogradov, A. P. [Review of Russian analytical chemistry.] Growth of analytical chemistry investigations in the USSR, 1082.

Vinogradov, A. V., and Shpinel', V. S. Phosphate-8-hydroxyquinoline method for the separation and volumetric determination of zirconium, 3672.

Vinogradov, G. V., Semechkin, L. Ya., and Paylov-skaya, N. T. Measurement of the composition of

engine oils during use, 152.

Vinogradova, E. N., and Ivanova, V. A. Diethyl hydrogen phosphorodithioate for the separation of small amounts of copper, cadmium, lead and bismuth in zinc and for the polarographic determination of germanium in the presence of arsenic,

Vinós, J. A. See Morcillo, J., 1411, 2264. Vioque, A., and Pilar Villagrán, M. del. Trace elements in edible oils. V. Separation and determination of iron using ion-exchange resins,

Vioque, E., and Pilar de la Maza, M. del. Identification of organic acids as p-phenylazophenacyl

esters, 559. Virtama, P. Quantitative determination of bone minerals from roentgenograms, 936.

Virtanen, A. I. See Hietala, P. K., 3550.

Vishnevskii. N. E. Determination of aromatic hydrocarbons in petroleum, 585.

Vishnu. See Ramaiah, N. A., 386, 787.

Vitagliano, M. Validity of methods for controlling the purity of olive oil, 4317.
Viting, B. I. See Breger, A. Kh., 3699.

Vittorelli, F. See Rocchi, B., 3510.

Vladimirova, V. M. Amperometric titration of indium with Complexone III, 2557.

 See also Tsyvina, B. S., 4028.
 Vladzimirskaya, E. V. [Conference on "Some Questions of Pharmacy." Kiev, 1956.] Analysis of rhodanine and its derivatives, 1661.

Vobora, J. See Přibil, R., 3632. Vodar, B. See Romand, J., 1435. Vogel, J. See Wenger, P. E., 1317.

Vogel, R. S. Isotopic determination of uranium-235 at low concentrations by means of echelle spectroscopy, 3329.

Voigt, I. See Rothe, M., 2236. Voigt, J. Polarographic method for the determination of the double-bond content in maleic acid polyesters, 1895.

See also Rauscher, K., 2269.Voigt, K. D. See Tamm, J., 3476.

Voikin, L. M. See Madanov, P. V., 1718.

Voinovitch, I. A. Analysis of silicates, 2929.

— and Debras, J. Precision and rapidity of certain chemical and physical determinations of alumina

in aluminosilicates, 2556. Vojíř, V. Polarographic analysis of small amounts of flowing solutions, 3960.

Volbert, F. See Kaufmann, H. P., 3153. Volchok, H. L., Kulp, J. L., Eckelmann, W. R., and Gaetjen, J. E. Determination of strontium-90 and barium-140 in bone, dairy products, vegetation and soil, 3433.

Voldan, M. Colorimetric determination of 1-phydroxyphenyl-2-methylaminopropanol oxyephedrine], 239.

Volk, R. J., and Weintraub, R. L. Micro-determination of silicon in plants, 3546.

Volke, J. Polarographic determination of some esters of nicotinic acid, 242. Polarography of aromatic heterocyclic compounds. V. Reduction of pyridinecarboxylic acid aldehydes, 3403. See also Holubek, J., 222.

Volkova, A. I., and Zakharova, N. N. Determination of micro amounts of lead in metallic indium, 4041.

— See also Babko, A. K., 3715. Volkova, N. S. See Shub, M. E., 3139. Volková, V. Polarographic distinction between Bromisoval [bromvaletone] and Bromadal [carbromal] and their determination, 233.

and Icha, F. Polarographic determination of bromoform in drugs, 1675.

Volodarskaya, R. S. See Budanova, L. M., 1458. Voloshenko, L. L. See Atrashenok, L. Ya., 1502.

Voluşniuc, M. See Vancea, M., 1719, 1720.
Von Baekmann, A. See Baekmann, A. von.
Vonesch, E. E., and Guagnini, O. A. Hydroxamic acids. VIII. Colorimetric micro-determination of formic esters. Formyl number for the characterisation of essences and flavours, 2401.

Von Forell, H. See Forell, H. von.

Von Hintzenstern, G. See Hintzenstern, G. von. Von Sándor, Z. See Sán 'or, Z. von.

Von Stocmeier, H. G. L. See Stocmeier, H. G. L. von. Voorhies, J. D., and Adams, R. N. Voltammetry at solid electron. An of polarography of sulpha drugs, 2767.

See also Adams, R. N., 1417.
 Voorst, F. T. van. Analysis of fats from chocolate

products (and cacao beans). II, 264.

Vorel, F., and Prokeš, J. Oscillopolarographic method for the detection and semi-quantitative determination of barbiturates in biological materials, 3083.

Vorob'ev, A. S. Volumetric determination of chloride, bromide and iodide ions when present together, 509.

Vorobjov, V. Analytical evaluation of higher

phenolic fractions of coal tar from the viewpoint of phenol - formaldehyde resin production, 3801.

Voshchinskaya, M. S. See Kotelkov, N. Z., 4013. Vřeštál, J., Havíř, J., Brandštetr, J., and Kotrlý, S. Separation of phosphates and fluorides with silver salts, 2169. silver salts, 2169. Complexometric titrations (chelatometry). XXXII. Indirect complexometric determination of fluorides with lead salts, metric determination of nuorides with lead saits, 2199; XXXIII. Primary standards in chelatometry, 2494.

Vries, M. J. W. de. See Wiggers de Vries, M. J., 997.

Vrščaj, V. See Furman, L., 4412.

Vukanović, V. M. See Pešić, D. S., 1844.

Vukčević-Kovačević, V., and Fintić, V. Qualitative

analysis of antimony, bismuth and arsenic in mixtures, 3311.

Vukov, K. Marc contents of sugar beet, 1689.

Vuković, R. J. See Jovanović, M. S., 2455. Vulterin, J. See Berka, A., 3971. Vydra, F. See Körbl, J., 771.

Vystrčil, A. See Stárka, L, 892, 893.

Waalkes, T. P., and Udenfriend, S. Fluorimetric estimation of tyrosine in plasma and tissues, 2739.

— See also Weissbach, H., 3850.

Wachsmann, T. See Pfeil, E., 2513.

Wada, Tadashi. See Uryu, T., 3035.

Wada, Tsuguyo. See Emi, K., 1790.

Wada, Tsuru. Determination of amino acids by a radio-isotope dilution method combined with paper chromatography. II. Amino-acid content of protein, 3093.

Waddill, H. G., and Gorin, G. Determination of cysteine with ferricyanide by amperometric titration with two polarised electrodes, 4257.

Waddington, G. See McCullough, J. P., 749.

Wade, K. See Greenwood, N. N., 1735. Wade, P. Relationship of the strength of highsolids pectin gels to the concentration and jellyforming capacity of the pectin present, 2777.

Wagener, J. S., and Marth, P. T. Analysis of gases at very low pressures by using the omegatron spectrometer, 4403.

Wagner, A. Potentiometric determination of sulphates, chlorides and nitrates in water, 2415.

Wagner, E. B. See Kelley, M. T., 1725.

Wagner, M. See Kühnhanss, G., 1283, 2279.
Wagner, W. F. See McNerney, W. N., 482, and
Smith, W. T., jun., 2867.

Wahhab, A., and Ahmad, M. Determination of the cation-exchange capacity of soils, 1392.

Wahler, B. E. Estimation of 2 to 20 µg of inulin in animal tissues, 625.

Wahlster, M. See Fischer, W. A., 1522. Wakamatsu, S. Determination of magnesium in aluminium alloys by the use of EDTA, 382. Spectrophotometric determination of vanadium in iron and steel, 465. Determination of cobalt in steel with acridine, 1867. Determination of phosphorus in ferrophosphorus, 2589. Spectrophotometric determination of zirconium in steel with quinalizarin, 3749.

Wakatsuki, T. See Suzuki, Yukio, 1499.
Waki, H. See Yoshimura, J., 1871.
Wakii, A. See Garnier, M., 3937.
Waksmundzki, A., Ościk, J., amd Frelek, Z. Paper chromatography of nitrotoluidines. II. Separation and identification of isomeric mononitro

derivatives of p-toluidine, 1270.

Waldschmidt, M. See Bode, E., 2313.

Walkenstein, S. S., and Knebel, C. M. Routine determination of sulphur-35 in biological material,

Walker, G. T., Freeman, F. M., and Hirsch, F. Analytical method for the detection of thiols in cold-wave preparations, 1577.

Walker, J. B. Mechanism of transamidinase action: transamidination in Streptomyces griseus. [Determination of hydroxyguanidine], 4243.

Walker, M. T. See Karchmer, J. H., 1920. Wall, R. F. See Baker, W. J., 1725.
Walsh, J. R. See Humoller, F. L., 1659.
Walter, A. J. See Hall, G. R., 834.
Walter, C. F., and Ingols, R. S. Simple assembly for

paper electrophoresis, 2849.

Walter, R. I. Anion-exchange studies of scandium III and vanadiumIV. Separation of scandium, titanium and vanadium, 3656.

Walter, W. See Heyns, K., 946.
Walton, J. R. Solid-sample mass-spectrometer analyses of enriched stable isotopes, 4409.

Wampler, G. See Isbell, H. S., 870. Wang, C.-L. See Chang, Yu-Chung, 245.

Wang, K. Studies on analytical functional groups of organic reagents used in inorganic analysis. II. Reagents for antimonous ions, 458.

See also T'ien, P.-S., 365, 4145.
 Wang, P.-J. See Wang, Y.-H., 594.
 Wang, S.-J. See Liang, S.-C., 4089.

Wang, Y.-H., Chen, K., Chang, T.-H., Yang, H.-M., Chien, J.-Y., and Wang, P.-J. End-group titration of polycaprolactam, 594.

Wänke, H. See Ebert, K. H., 4094. Ward, C. C. See Thompson, C. J., 1284. Ward, D. H. See Crawford, A., 1287. Ward, D. L. See Bishop, M., 3759.

Ward, F. N., and Marranzino, A. P. Field determination of uranium in natural waters, 2010. Wardle, R. See Fletcher, N. W., 1818, 1834.

Warner, R. G. See Kleyn, D. H., 3519. Warren, G. W. See Haskin, J. F., 2228

Warricker, J. B. See Osmond, R. G., 2013.

Washall, T. A. See Sauer, R. W., 898.
Washburn, W. H. [Infra-red quantitative analysis data.] Determination of diethyl malonate in diethyl ethylmalonate, 1587; Determination of pentan-2-ol and pentan-3-ol in mixtures, 1587; Determination of N-(\beta-hydroxyethyl)phenylacetamide in presence of ethanolamine and ethyl phenylacetate, 3817; Determination of chlorcyclizine and pramoxine in mixtures, 3817.

and **Krueger**, **E. O.** [Infra-red quantitative analysis data.] Determination of acetylsalicylic

acid, phenacetin and caffeine in mixtures, 1587.

and **Mahoney, M. J.** Infra-red quantitative analysis data. Determination of pentan-2-ol in mixture with 2-bromopentane plus 3-bromopentane, 3817. Substitute standards in infra-red differential spectrophotometry, 4369.

and Scheske, F. A. [Infra-red quantitative analysis data.] Determination of 1-chloropent-1en-3-one in 1-chloro-3-ethylpent-1-en-4-yn-3-ol, 3817; Determination of toluene in 1-chloropent-1-en-3-one, 3817.

See also Scheske, F. A., 1587.

Waszak, S. Colorimetric apparatus for investigating gases. I. Continuous determination of small oxygen contents, 1179.

Watanabe, H., and Yamasaki, M. Ion-exchange resins in medical analysis. IV. Determination of berberine chloride by cation-exchange resins, 3111.

Watanabe, K. Platinum group. X. Alkali fusion of osmium and ruthenium and their determination, 1868.

Watanabe, Sadakata. See Yamagata, N., 2110, 2111.

Watanabe, Shiro. See Gotô, H., 3748.

Watanabe, Teizo. See Jono, W., 814, 1939.

Watanabe, Terumi. See Takiura, K., 2997. Waterbury, G. R., and Bricker, C. E. Separation

and determination of tantalum, 810. Separation and spectrophotometric determination of microgram amounts of niobium, 3318. See also Bricker, C. E., 87.

Waterman, H. I. See Cornelissen, J., 900, and Hendriks, W. J., 2262.

Waters, D. N. See Woodward, L. A., 320.

Waters, P. L. Recording differential thermobalances, 3956.

Watillon, A., and Hautecler, M. Dark-field microelectrophoresis using a thick-walled cylindrical cell, 2458.

Waton, N. G. See Lewis, J. J., 2731, 3092. Watson, C. C. Determination of p-chlorobenzyl

p-chlorophenyl sulphide (chlorbenside) and pchlorobenzyl p-chlorophenyl sulphoxide (chlorbenside sulphoxide) residues on apples, 2430.

Watson, P. D. Determination of the solids in milk by a lactometric method at 102° F, 696.

Watts, H. L. Volumetric determination of aluminium in presence of iron, titanium, calcium, silicon and other impurities, 3283. Watts, J. O. See Stalcup, H., 928.

Watzke, E. See Heilmann, J., 3458.

Wawzonek, S. [Review of industrial applications of analysis, control and instrumentation.] Organic polarography, 2867.

Weatherby, J. H. See McKennis, H., jun., 3028.

Weaver, E. R., Hughes, E. E., Gunther, S. M., Schuhmann, S., Redfearn, N. T., and Gorden, R., jun. Interpretation of mass spectra of condensates from urban atmospheres, 3173.

Weaver, J. C. Progress in varnish testing, 1935. Weaving, A. S. Determination of chlorogenic acid in tobacco, 2759.

Webb, A. D. See Kepner, R. E., 146.

Webb, J. M. Determination of total nucleic acids by ultra-violet absorption methods, 3851.

Webb, J. R. See Fennell, T. R. F. W., 1543.

Webb, J. S. See Bergel, F., 182. Webb, M. S. W. See Garton, W. R. S., 2885. Henderson, E. H., 785, and Smart, R. C., 3278.

Webb, R. J. Semi-quantitative determination of traces of sodium, potassium and magnesium in bismuth and bismuth - uranium alloys, 3315.

Weber, A. E. See Krol, A. J., 1556, and Mackey, D. R., 1557.

Weber, C. W. See Carter, J. A., 490. Weber, O. A. Polarographic determination of small amounts of lead, 435.

Weber, R. See Thouvenot, J., 3849. Webster, R. K. See Bastian, R., 1491. Webster, R. K. See Smales, A. A., 718.

Wegienka, L. C. See Mason, M., 2343. Wehber, P. Chelatometry. XV. pM indicators, 1756; XVI. Simultaneous determination of tervalent iron and aluminium ions, 2633.

and Johannsen, W. Chelatometry. Ferric thiocyanate indicator, 1852.

Weichselbaum, T. E., and Margraf, H. W. Determination of △4-3-ketocorticosteroids in human peripheral plasma by the isonicotinic acid hydrazide reaction, 673.

Weidenbach, G. See Kögler, H., 738.

Weidmann, G., and Liebold, G. Influence of copper, nickel and cobalt charging of ion-exchange resin columns on the separation of a praseodymium neodymium mixture by elution with Trilon A [nitrilotriacetic acid], 2925.

Weill, C. E., and Bedekian, A. Colorimetric determination of amino nitrogen in coloured solutions,

Weil-Malherbe, H., and Bone, A. D. Estimation of catecholamines in urine by a chemical method,

Weiner, R., and Boriss, P. Volumetric determination of molybdenum, 4086.

and Ney, E. Complexometric titration of chromium¹¹¹ ions, 477.

Weinmann, S. H., Crepy, O., Baulieu, E. E., Guy, J., and Jayle, M. F. Separation and determination of dehydroepiandrosterone and epiandrosterone, 671.

See also Baulieu, E. E., 3867, and Desgrez, P., 4266. Weinstein, A. Fraction cutter for gas chromato-graphy, 2049.

Weinstein, E. E., Pavlenko, L. I., and Belyaev, Yu. I. Radioactive isotopes in spectral analysis,

Weinstein, I. B. See Ross, G., 3448.

Weintraub, R. L. Volk, R. J., 3546. See Reinhart, J. H., 4362, and

Weizberg, H. F. See Kaplan, C. M., 2346.

Weiser, H. J., jun. Determination of pyrophosphate

in commercial tripolyphosphate, 73.

Weiser, M., and Zacherl, M. K. Detection and determination of Pervitin [methylamphetamine],

Weiser, R. See Pöhm, M., 557. Weiss, C. F. Radiochemical analysis, 1097.

Weiss, F. T. See Bann, J. M., 4349, and Muhs, M. A., 2281.

Weiss, H. V., and Shipman, W. H. Separation of strontium from calcium with potassium rhodizonate. Application to radiochemistry, 1461

Weiss, P. J., Andrew, M. L., and Wright, W. W. Solubility of antibiotics in twenty-four solvents:

use in analysis, 963.

Weissbach, H., Waalkes, T. P., and Udenfriend, S. Measuring serotonin [5-hydroxytryptamine] in tissues: simultaneous assay of both serotonin and histamine, 3850.

Weissenberg, E. See Nir-Grosfeld, I., 3106.

Weissenberg, U. M. Fully-automatic, self-regulated water-distillation apparatus, 3940.

Weisser, H. See Lassner, E., 1482.

Weisz, H. See Ballczo, H., 1512, and Knödel, W., 776.

Welbon, W. W. See Zemany, P. D., 2108.
 Weller, S. W. See Hindin, S. G., 1574, and Lee, James K., 3994.

Wendlandt, W. W. Thermal decomposition of scandium, yttrium and rare-earth-metal oxalates, 1799. Inexpensive automatic recording thermobalance, 2064. Reaction of 8-quinolinol and 2-methyl-8-quinolinol with rare-earth elements, 2560.

and Brabson, J. A. Thermolysis of oxine molybdophosphate, 1837.

Wenger, P. E., Monnier, D., and Vogel, J. Microdetermination of tyrosine, 1317.

Wennerstrand, B. See Kinnunen, J., 2496.

Went, H. A. "Micro" homogeniser for small-volume samples, 3557.

Wenzel, W. Determination of organic phosphoric acid compounds in plants, 2422.

Werkheiser, W. C. See Amoore, J. E., 3951, and Bartley, W., 1593.
Werle, E. See Aures, D., 621.
Werner, S. C. See Block, R. J., 3432.
Wesley-Hadžiha, B., and Abaffy, F. Photometric determination of hydrazinophthalazines, 3404. Wessling, B. W., and DeSesa, M. A. Direct spectro-

photometric determination of uranium in sulphate and carbonate solutions, 497. See also Nietzel, O. A., 1164

Wesson, L. G. Estimation of tartronate in tissues, 4232

West, P. W. [Review of industrial applications of analysis, control and instrumentation.] Inorganic

microchemistry, 2867.

and Coll, H. Direct spectrophotometric determination of chloride ion in water, 4329.

 and Sarma, P. L. Spot test for nitrates, 451.
 and Vick, M. M. Qualitative analysis and analytical chemical separations without the use of sulphides, 1427.

See also Robinson, J. W., 808, and Sen, B., 2079. West, R. R., and Gaddie, R. S. Determination of saponin in granulated sugar; method of H. G. Walker adapted to routine control, 1359.

West, T. S. Analysis for industry. [I. Solventextraction methods, inorganic chemistry], 1104; [II. Complexones], 3967. Catalysts for carbon and hydrogen analyses, 4154.

See also Bailey, D., 3293, and Belcher, R., 2225, 2497, 2668, 2889, 3588, 3970.

Westenskow, G. See Berliner, D. L., 1651.

Westland, A. D., and Beamish, F. E. Separation and determination of the platinum metals on a micro scale, 1532. Use of chlorine in the attack of noble metals. Ouantitative recovery of micro amounts of platinum, ruthenium and osmium, 2657.

See also Beamish, F. E., 2867.

Westphal, U. See DeVenuto, F., 3868.

Wetter. L. R. Estimation of substituted thiooxazolidones in rape-seed meals, 289.

Whaley, T. P., and Gyan, J. A. Semi-quantitative estimation of dithionite, 819.

Wheeldon, L. W., and Collins, F. D. Studies on phospholipids. I. Determination of amino nitrogen in unhydrolysed phospholipids, 196. Wheeler, G. V. See Wilson, H. M., 1188, 2617.

Whelan, R. F. See Roddie, I. C., 613.

Whitaker, D. R. See Hanson, K. R., 3097.

White, C. E. [Review of industrial applications of analysis, control and instrumentation.] Fluorimetric analysis, 2867.

and Hoffman, D. E. Characteristics of boron benzoin complex. Improved fluorimetric determination of boron, 51.

See also Coyle, C. F., 804.

White, D. Organic-montmorillonite compounds in gas chromatography, 348.
and Vaughan, G. A. Determination of indole in

tar fractions, 588.

White, J. C., and Ross, W. J. Extraction of chromium with trioctylphosphine oxide, 3708. See also Goldberg, G., 4370, Mann, C. K., 3322,

and Young, J. P., 2584.

White, J. F. See Potter, E. C., 277, 1002.

White, J. L. See Formusa, K. M., 1638.

White, J. W., jun., Eddy, C. R., Petty, J., and Hoban, N. Infra-red identification of disaccharides, 3018.

See also Hoban, N., 4176. See Gilbert, T. W., jun., 1118.

See Barnard-Smith, D. G., 755. White, P. T.

White, R. G. See Seeber, R. E., 1891.
White, R. R. See Bakker, N., 1947.
White, T. T., Campanile, V. A., Agazzi, E. J.,
Teselle, L. D., Tait, P. C., Brooks, F. R., and
Peters, E. D. Carbon - hydrogen determination.

Automatic macro combustion apparatus, 2660. Whitman, C. L. Titrimetric determination of sul-phamic acid, 1182.

— See also Staleup, H., 929.

Whitney, R. McL. See Murthy, G. K., 3154.

Wichterle, O., and Mikeš, O. Apparatus for countercurrent distribution, 1730.

Wickers, E. See Bates, R. G., 3371.
Wickstrem, A. See Backe-Hansen, K., 3143.
Wieland, O. Enzymic estimation of glycerol in blood, 1307.

Wieme, R. J. Description of a densitometer for direct colorimetry of irregularly shaped chrom-

atographic spots, 4360.

and Rabaey, M.
electrophoresis, 1413. Quantitative ultra-micro

Wiggers de Vries, M. J. See Keuning, K. J., 997. Wijngaarden, D. van. See Ligny, C. L. de, 374.

Wilcox, E. G. See Galloway, L. S., 1650.

Wilcox, P. E., Cohen, E., and Tan, W. Amino-acid composition of a-chymotrypsinogen, including estimation of asparagine and glutamine, 2339.

Wild, A. M. Polarographic estimation of tetracene, 2699.

Wilder, P., jun. See Quin, L. D., 3114.

Wildner, G. See Wildner, H., 979, 1325, 2752, 3161, 3487, 3902.

Wildner, H., and Wildner, G. Measurement of enzymatic amylolytic activity. Group A. IV. Methods depending on examination of the starch breakdown by the colour change of the iodine reaction, 979; Group A. V. Methods based on the determination of the decrease in volume or weight of starch. (Determination of amylases by

Wildner, H., and Wildner, G. (continued) alcoholic precipitation of the substrate, 979; Group B. I. Chemical methods, 979, 1325, 2752,

3161, 3487, 3902.

Wildy, P. C. See Garton, W. R. S., 2885.

Wilgain, S. See Koczy, F. F., 719, and Picciotto. E., 444.

Wilk, G. See Hegemann, F., 1217. Wilkerson, R. C., Harvey, M. C., and Guedin, R. M. Infra-red quantitative analysis data.] Analysis of ethane, propane, isobutane and n-butane, 3817.
— See also Guedin, R. M., 1587.
Wilkinson, H. C. See Mott, R. A., 1290, 3803.

Wilkinson, J. H. See Maclagan, N. F., 641. Wilkinson, R. H. Micro-method for serum calcium

and serum magnesium, 603.

Wilkoff, L. See Kanabrocki, E. L., 634. Willgallis, A. Flame-photometric at Flame-photometric analysis of

minerals for alkali-metal content, 1451.

Williams, A. F. [Congress. Modern analytical chemistry in industry. St. Andrews, 1957.] Analytical research in the Nobel Division of Imperial Chemical Industries, 2478.

and Brooks, J. Polarographic determination of

isopropyl nitrate, 3030.

Williams, C. J. See Rosin, J., 4273.
Williams, D. A. See Swann, D. A., 2154.
Williams, D. D., Barefoot, R. D., and Miller, R. R. Differential thermal analysis apparatus for heating and cooling data, 3223.

Williams, D. N. See Bartlett, E. S., 2846. Williams, H. L. See Sweeney, J. P., 2432. Williams, J. P., Farncomb, F. J., and Magliocca, T. S. Determination of sulphur in glass, 2605.

Williams, K. T. See Bevenue, A., 2330, 3840. Williams, L. A., Linn, R. A., and Zak, B. Determination of ethanol in finger-tip quantities of blood, 3436.

Williams, M. See Belcher, R., 2225.

 Williams, R. C. See Hoch, H., 4357.
 Williams, R. W., Stalcup, H., and Fauth, M. I.
 Determination of ammonium salts in acid mixtures containing guanidine salts, 884.

— See also Stalcup, H., 928.
Williams, S. M. See Liddel, H. F., 2133.
Williams, W. D. See Stenlake, J. B., 2712, 2758. Williamson, D. H. See Dickens, F., 3446.
Williamson, C. B. See Sullivan, L. J., 899.
Willis, H. H. See Crouch, E. A. C., 2109.
Willins, C. R., and Harding, W. M. Effect of

width of paper on R_F values of amino acids, 3853. Wilmshurst, J. K. Infra-red and Raman spectrum of dimethoxymethane, 3377

Wilner, J., Garth, M. A., and Kirshbaum, A. Cupplate assay for bacitracin, 2371.

Wilson, A. See Bowers, R. C., 1725.
 Wilson, A. D. Determination of ferrous iron in rocks and minerals, 99.

Wilson, C. L. See Spitzy, H., 513, and Thompson, Jean K., 798.
Wilson, C. W. See Gunther, F. A., 4373.
Wilson, H. M., and Wheeler, G. V. Determination

of uranium in solution by X-ray spectrometry,

1188, 2617. Wilson, K. W. Fixation of atmospheric carbonyl

compounds by sodium bisulphite, 4327. Wilzbach, K. E., and Riesz, P. Isotope effects in gas - liquid chromatography, 2089.

Wimer, D. C. Potentiometric determination of

amides in acetic anhydride, 1900.

Wincor, W. See Kleinert, T. N., 278.

Winder, W. C. See Doan, F. J., 3155.

Winsauer, K. Paper-chromatographic determination of hydroxystearic acids, 1257.

Winslow, E. H. See Liebhafsky, H. A., 2867.

Winston, S. See Alberts, W. W., 3426. Winter, M., Demole, E., and Sundt, E. 4-Semicarbazidoazobenzene and its use in analytical chemistry, 1754.

Winterburn, J. See Hayes, O. B., 3591. Wintermere, D. M. See Arret, B., 2373. Winterscheidt, H. Detection of modified unsaturated oils, 2304.

Winzen, W. See Drekopf, K., 1126. Wise, C. S., and Mehltretter, C. L. Colorimetric determination of di-aldehyde content of periodate-oxidised starch, 2292.

Wiseman, W. A. Gas chromatography and the

perfumer, 913.

Wish, L., and Rowell, M. Sequential analysis of tracer amounts of neptunium, uranium and plutonium in fission-product mixtures by anion

exchange, 1198. Witnah, C. H., Medved, T. M., and Rutz, W. D. Physical properties of milk. IV. Maximum density of milk, 1362.

Witt, H. See Juza, R., 3305.

Witten, B. See Hanker, J. S., 1827, and Sass, S.,

Wittmoser, A., Bockshammer, H., and Gras, W. D.

Analysis of residues from pig and cast iron, 3746. Wittner, R. F., Marinetti, G. V., Morrison, A., and Heicklin, L. Paper chromatography of phospholipids with solvent mixtures of ketones and acetic acid, 197.

Wnekowska, L., and Leśniak, J. Determination of ash in tar and pitch with low ash contents, 157.
 Wode, G. [Scandinavian symposium on fat ran-

cidity. Elsinore, 1957.] Analytical control of oxidation during production and refining of oils and fats. 3527.

Woidich, K. Determination of volatile acids in wine, 1371.

Wolf, M. J. See MacMasters, M. M., 977. Wolf, S. Measurements of dielectric constants in

analytical chemistry, 777.

Wolfarth, E. F. Determination of 1:1'-ferrocene [dicyclopentadienyl iron] dicarboxylic acid in presence of ferrocene monocarboxylic acid by infra-red spectroscopy, 2270.

Wolfenden, J. H. Reduction of aqueous iodine by

trace impurities, 98.

Wolfgang, R. L., and Rowland, F. S. Radio-assay by gas chromatography of tritium- and carbon-14-labelled compounds, 3373.

See also Rowland, F. S., 4407.

Wolford, R. W. See McNary, R. R., 1710. Wollermann, L. A. See Englis, D. T., 139, 3904.

See Colarusso, R. J., 2383, and G.

Schmall, M., 966. Wong, F. F. See Carson, J. F., 3031. Woo, S.-L. See Chang, Yu-Chung, 245. Wood, A. J. See Smales, A. A., 800.

Wood, D. F., and Clark, R. T. Determination of tin in zirconium and its alloys, 1486.

— See also Elwell, W. T., 1800.

Wood, E. L. See Gehrke, C. W., 4342.

Wood, G. A., and Stanton, R. E. Determination of chromium in soils for use in geochemical prospecting, 287.

Wood, J. C. S. Bromine number of propylene and butylene polymers, 2718.

Wood, J. H. See Crawford, A., 3683. Wood, R. C. Improved infra-red absorption spectra hygrometer, 3573.

Wood, T., and Bender, A. E. Analysis of tissue constituents. Commercialox-muscle extract, 1691.

Woodard, M. R. See Arret, B., 2373. Woods, J. T. See Leibmann, W., 1567. Woodside, J. M., Piper, I., and Leary, J. B. Spectrophotometric determination of cycloserine and

isoniazid in pharmaceutical preparations, 3508. Woodside, R. See Zeif, M., 1338. Woodward, L. A., and Waters, D. N. Water-cooled mercury arc lamp for the excitation of Raman spectra, 320.

Woogerd, S. M. See Lykken, L., 1721. Woolf, L. A. See Stokes, R. H., 1515. Woolfolk, E. O., and Taylor, J. M. p-Phenylazobenzoyl chloride for identification and chromatographic separation of colourless compounds. III. Phenols, 1905.

Woolford, M. H., jun. See Chiccarelli, F. S., 1013. Wootton, I. D. P. Determination of iron in biological material by spectrophotometry of ferric

perchlorate, 3823.

Work, E. Reaction of ninhydrin in acid solution with straight-chain amino acids containing two amino groups and the estimation of ac-diaminopimelic acid, 1631.

Worker, N. A. Chromatographic separation and estimation of certain pasture lipids. II. Toco-

pherol, 3923.

Worthman, A. See Livingston, E. M., 1548. Wotring, A. W. See Baker, W. J., 1725. Wragg, W. R. See Barber, H. J., 3955.

Wray, L. W. Determination of rare-earth impurities

in thorium by spectrographic methods, 3676. Wright, L. D. See Hoffman, I., 3929. Wright, N. See Lerscher, L. W., 3571. Wright, S. E. See Tantivatana, P., 4278. Wright, W. W. See Selzer, G. B., 231, and Weiss, P. J., 963. Wright, J. R. See Hoffman, I., 3929.

Wroński, M., and Philipp, B. Titration of hydrogen sulphide and sulphides with organomercury

compounds, 4074.

Wu, C. S. See Sayres, A., 2471. Wülfken, H. D. See Linné, W., 3046.

Wunderly, C., and Bustamente, V. Electrophoresis in agar gel, 13.

Wünsch, L. Ion exchangers in inorganic analysis,

Würdig, G. See Schormüller, J., 1310. Wurm, W., and Straus, R. Subfractionation and resolution of serum proteins by paper electrophoresis, 1956. Wurziger, J., and Lindemann, E.

alkali refining of rancid lard, 3907.

Wyld, G. E. A. See Harlow, G. A., 1762, 1893.

Wyllie, H. A. Mercury-in-glass gas burette, 2436. Wynn, V., and Ludbrook, J. Measurement of the

pH of body fluids, 173.

Wynne, E. S., and Daye, G. T., jun. Enzymic hydrolysis of plasma proteins for microbiological assays of amino acids, 1637.

Wyszyński, N. See Dobrowolski, J., 25.

Y

Yagi, K. Determination of flavins, 3171.

Yagura, K. See Kumagami, A., 1959. Yajima, S. See Aoki, F., 2112.

Yakimets, E. M., and Chernavina, N. M. Murexide as an indicator in the complexometric determination of copper, 369.

See also Bashkirtseva, A. A., 3648, and Styunkel', T. B., 3275.

Yakovleva, E. A. See Shatenshtein, A. I., 353, 714.

Yakubov, A. M. See Abidova, Z. Kh., 4202, and Usmanov, Kh. U., 4180.

Yallop, H. J. See Finnie, T. M., 1586. Yamada, A. See Kikuchi, T., 2512.

Yamada, Shigeyuki. See Shinoda, K., 1865.

Yamada, Syoichi. Paper chromatography of inorganic substances. I. Paper chromatography of the metals of the first group, 350; V. Relation between the R_F value and the amount of hydrochloric acid - butanol developer used in the ascending and the descending methods, 3202.

Yamada, Y. See Izumi, G., 2252, 3019. Yamagata, N. Separation of a trace amount of caesium by ion-exchange chromatography. Determination of caesium in sea water, 716.

and Watanabe, Sadakata. Carrier-free separation of caesium from fission products by the use of co-precipitation with thallium1 dipicrylaminate, 2111

Yamagata, T., and Watanabe, Sadakata. Co-precipitation of a trace amount of caesium with thallous salts, 2110.

Yamagata, T. See Yamagata, N., 2110.
 Yamagishi, M., Yokoo, M., and Inoue, S. Applications of nitrometry. XIV. Utilisation of diazo-

coupling reaction, 3042.
Yamaguchi, H., Ohashi, M., and Nakatsuchi, A. Activity test of phenolic germicides with a pen-

recording polarograph, 4301.

Yamaguchi, K., Shoji, H., and Nishimoto, K.
Determination of alkaloids from Rauwolfia serpentina Benth. I. Separation of reserpine from total alkaloids by paper electrophoresis,

- Tabata, Y., and Shoji, H. Determination of alkaloids from Rauwolfia serpentina Benth. II. Fluorimetric determination of reserpine on filter-paper, 3110.

Yamaguchi, N. See Araki, S., 3375. Yamaguchi, S. X-ray shadow microscopy as an

aid for the analyst, 1067.

— and Hori, T. Magnetochemical and crystallographic analysis of ferromagnetic oxides by electron diffraction, 2631.

Yamamoto, Sakujiro. Chemical analysis and separation by extraction methods. V. Separation of iron from vanadium, 1215.

Yamamoto, Shigeru. Polarography of agricultural chemicals. VII. Polarographic determination of parathion mixed with gamma-BHC, 4347.

and **Nomura**, **K**. Polarography of agricultural chemicals. VI. Determination of gamma-BHC mixed with parathion, 4347.

Yamamoto, Yasuhisa. See Umemoto, S., 3824. Yamamoto, Yuuroku. See Ishibashi, Masayoshi, 1213, 1854

Yamamura, S. S. Determination of organic acids and carbonyl compounds, 3771.

Yamane, Y. Studies on β-diketone - uranyl chelate compounds. IV. Spectrophotometric determination of the uranyl ion with β-diketones,

Yamaoka, N. See Suzuki, S., 2969, 3196.

Yamasaki, D. See Gagnon, P. E., 167. Yamasaki, K., and Matsumoto, C. Studie o-dioximes and their metal complexes. Studies on blexes. VI. Colorimetric determination of nickel with dimethylglyoxime, 1231; VII. Studies on some ferrous complexes of substituted phenylglyoximes,

Yamasaki, M. See Watanabe, H., 3111.
Yamauchi, F. See Murata, A., 4020.
Yang, H.-M. See Wang, Y.-H., 594.
Yankov, S. P. Detection of the cyanide ion, 2927.

Yano, S. See Kumagami, A., 1959.

Yarborough, V. A. See Haskin, J. F., 2228. Yarbro, C. L., and Golby, R. L. Complexometric titration of urinary calcium and magnesium, 3076. Yasinenko, V. M. Determination of manganese

oxide in glass, 1850.

Yaskina, D. S. Quantitative determination of some salts of alkaloids and anaesthetics in ampoule solutions with the aid of "anionite H-O," 1669. Yasnopol'skii, V. D., Dolnakova, I. É., and Pervova,

N. I. Quantitative analysis of spent sulphuric acid from alkylation processes, 83.

Yasuda, K. Spectrochemical analysis with a

universal source unit. V. Determination of lead in high-purity zinc, 3294.

and Amano, K. Spectrochemical analysis with a universal source unit. IV (2). Determination of various elements in copper alloys, 375.

Yasui, E., and Suzuki, H. Determination of a

small amount of hydrocarbons and carbon dioxide in oxygen, nitrogen and air by the use of silica gel cooled with liquid oxygen, 553. Colorimetric determination of carbon disulphide in benzene, 2260. Composition of Ilosvay's reagent used for the determination of acetylene in liquid oxygen, 4167. Determination of small amounts of acetylene in air with silica gel treated with liquid oxygen, 4326.

See also Matsui, R., 554.

Yaunzems, V. R. See Mozheiko, L. N., 720. Yavorkovskii, L. I. See Mai, L. A., 3838.

Yavorovskii, A. A., and Galibei, L. I. Polarographic analysis of type metals, 2593.

and Shimanskii, V. M. Semi-micro determination

of tin and antimony in type metals, 3665. Yavorskii, N. P. Refractometric quantitative determination of leptazol, 2766.

Yee, D. Y. See Mikkelsen, L., 2701. Yen, J.-Y., and Tao, T.-N. Separation of rhenium by co-precipitation and its determination in molybdenite, 4115.

Yoe, J. H. Colorimetric analysis with organic reagents, 775.

 See also Cluett, M. L., 935, Cogbill, E. C., 796,
 Frierson, W. J., 3002, and Steele, E. L., 1233.
 Yokoo, M. Application of nitrometry. XVI. Quantitative determination of secondary amines,

See also Yamagishi, M., 3042.

Yokosuka, S. Analysis of metallic nickel. IX. Determination of zinc, 2999; X. Determination of cobalt, 2999; XI. Determination of purity. Fundamental experiments, 2999; XII. Determination of purity. (2). Elucidation of the over-deposition, 2999; XIII. Determination of purity. (3). Removal of impurities and the method of determination, 2999.

Yokoyama, Y. See Kimura, K., 2601. Yoneda, Y. Determination of chloramphenicol in Chloromycetin ("otic") by ultra-violet spectro-

photometry, 4283. See also Aihara, T., 3121.

Yoshida, M. See Iwasaki, I., 519.

Yoshida, S., and Hasegawa, M. Micro-colorimetric method for the determination of shikimic acid, 722.

Yoshida, T. See Shinagawa, M., 434.

Yoshimi, N. See Tanaka, S., 2721.

Yoshimori, T. See Iinuma, H., 3643, 3714.

Yoshimura, C. Micro-determination of arsenic by the application of internal electrolysis. (Studies on metallic reducing agents in analytical chemistry), 2953.

Yoshimura, J., and Waki, H. Systematic analysis of silicates with ion-exchange resin, 1871.

Yoshino, K. See Isono, M., 1267.

Yoshino, Y., and Kojima, M. Analytical studies on microgram quantities of antimony. II. Ionexchange separation of antimony in high-purity metallic lead, 461.

and Kurimura, Y. Anion-exchange adsorption of some metals from mixed solvents, 2096.

Yoshioka, T., and Tani, I. Determination of phosphatase in milk, 2786.

Young, J. C., Parsons, J. R., and Reeber, H. E. Portable automatic alarm for detection of toxic agents in atmosphere, 4377.

 Young, J. G. See Gray, I., 1613.
 Young, J. P., French, J. R., and White, J. C.
 Micro-determination of zirconium in sulphuric acid solutions with catechol violet, 2584.

Young, R. S. Effect of zinc on the cvanide titration of nickel, 2652.

Yuki, S. See Sakamaki, I., 3698.

Yurugi, S. Studies on vitamin B₁ and related compounds. LXXX. Heat decomposition of disulphide-type thiamine derivatives. Separate determination of thiochrome, thiamine thiazolone and thiothiamine, 1700.

Yuster, H. G. See Mullin, H. R., 3325.

 \mathbf{z}

Zaborenko, K. B. See Spitsyn, V. I., 391. Zabotin, P. I. See Bukhman, S. P., 4027.

Zabrodina, A. S., and Miroshina, V. P. Simultaneous micro-determination of carbon, hydrogen and

alkali metal (lithium, sodium or potassium), 1537. Zach, J. Quantitative determination of C-reactive protein in serum, 1955.

Zacherl, M. K. See Weiser, M., 1348. Zaglodina, T. V. See Lur'e, Yu. Yu., 3688, and Makar'yants, A. I., 437.

Zagmen, J. See Linhart, K., 80.

Zagorevskii, V. A. See Peshkova, V. M., 527. Zahn, H., and Marstaller, H. Paper-chromato-graphic determination of phenylalanine in serum,

3461.

See also Zuber, H., 4258. Zahradník, M., and Pokorná, V. Determination of water in cosmetic emulsions, 1928.

Zahradník, R. See Chvapil, M., 651. Zaichikova, L. B., Lutenko, N. N., and Ioffe, V. P. Complexometric determination of lead in lead concentrates, 1806.

Zaidel', A. N. Spectral-isotopic method for the determination of hydrogen in metals, 3601.

Kaliteevskii, N. I., Kund, G. G., and Fratkin, Z. G. Spectrographic analysis by the evaporation method. III. Role of the "carrier" in the spectrographic analysis of uranium, 1504.

- Kaliteevskii, N. I., Lipis, L. V., and Chalka, M. P.
Spectrographic analysis by the evaporation
method. II. Determination of impurities in thorium and beryllium compounds by evaporation in vacuum, 448

- and Petrov, A. A. Spectral-isotopic determination of hydrogen in metals, 1110.

— See also Belyaev, Yu. I., 743. Zaitsev, V. A. EDTA (disodium salt) in the determination of alkaloids. I. Determination of quinine hydrochloride, 1668.

Zaitseva, G. N., and Afanas'eva, T. P. Quantitative determination of carbohydrates by descending paper chromatography, 3086.

Zaitseva, R. M. [Conference on "Some Questions of Pharmacy." Kiev, 1956. New reactions for sulphanilamide preparations, 1661.

— See also Portnov, A. I., 1661. Zak, B., and Ressler, N. Serum copper and iron on a single sample, 3428.

See also Williams, L. A., 3436.

Zakharov, E. L. Vacuum-fusion determination of oxygen and hydrogen in titanium, 4047.

Zakharova, N. N. See Volkova, A. I., 4041. Zakharova, Z. A. See Filimonov, L. N., 2580.

Zaki, M. R. See Khalifa, H., 1809.

Zakin, A. I. See Knizhko, P. O., 1661.

Zaky, M. R. See Korkisch, J., 494.

Zamanov, R. Kh. See Laplin, L. N., 2812. Zambrini, A. M. Detection and identification of poly(vinyl acetal) resins, 597.

Zamyshlyaeva, A. M., and Cherno-Ivanova, L. L. Separate determination of C₁ to C₄ or higher acids in the aqueous condensate obtained in the oxidation of paraffins, 3800.

Zanotti, L. See Vialli, M., 1058. Zapp, E. See Pungor, E., 389.

Zarembo, J. E. See Lysyj, I., 2663. Zaretskaya, I. I. See Nazarov, I. N., 128. Zarinskii, V. A., Farafonov, M. M., and Zateeva, V. V. High-voltage electro-dialysis. I. Separation of impurities from silicic and tungstic acids, 2931.

- and Mandel'berg, I. R. High-frequency apparatus for physicochemical studies and its applications, 4395.

See also Ershov, B. P., 1904.

Zaslavskaya, L. V., and Popova, N. M. Colorimetric determination of combined carbon in low alloy constructional steels, 107.

See also Popova, N. M., 3343.

Zateeva, V. V. See Zarinskii, V. A., 2931. Zavarov, G. V. Determining sulphate impurities in soluble phosphates, 3703.

Závorka, J., and Štráfelda, F. Mercury-pool electrode for continuous routine polarographic measurements, 3229.

Zawadzka, H. See Lasiewicz, K., 1160. Zdeněk, K. Determination of cyanides in industrial waste waters, 3541. Photometric determination of aluminium in water with aluminon, 2006.

Zdražil, J. See Roubal, J., 142.

Zeif, M., Woodside, R., and Huber, E. Identification of antibiotics as tetraphenylboron derivatives, 1338

Zeiss, Carl, Stiftung. Refractometer, 1066. Optical arrangement for comparing the transmission ratio of a sample with a standard, 4372.

Zeitlin, H., Frodyma, M. M., and Ikeda, G. Anomalous copper results with the use of porcelain crucibles, 4354.

Zelenka, S., and Kopriva, B. H. Influence of clarifying agents on the polarimetric determination of starch according to Ewers, 4310.

Zellner, R. J. See Bohon, R. L., 2276. Zelyanskaya, A. I., and Bausova, N. V. Separation of gallium from zinc, copper, cobalt, nickel and iron by ion exchange, 4026.

Zemany, P. D., Welbon, W. W., and Gaines, G. L., jun. Determination of microgram quantities of potassium by X-ray emission spectrography of ion-exchange membranes, 2108.

Zemlyanova, L. I., and Kushnir, Yu. M. Electron microscope for microchemical analysis, 1100.

Zemplén, J., and Szabó, P. Determination of the viscosity of bitumen, 1048. Zemyankovich, M. M. See Kadanov, R. Z., 4006.

Zenchelsky, S. T., and Segatto, P. R. Derivative thermometric titrations, 1744.

Zergényi-Balásfalvy, M. See Molnár, L. G., 3021. Zhacheva, E. I. See Zharkova, Z. P., 36. Zhadin, V. S. See Aidarkin, B. S., 2534. Zharkova, Z. P., and Zhacheva, E. I. Analytical

precipitation of gold from gold-plating electrolytes with hydrazine hydrochloride, 36.

Zharovskii, F. G. Extraction of vanadium hydroxyquinolinate, 2598. Distribution of the chloride complex of molybdenum in a hydrochloric acid-organic solvent system, 2610. Detection of aluminium with alizarin after removal of interfering elements by extraction, 4021.

and Pilipenko, A. T. Colorimetric determination of zirconium with phenylfluorone, 2948.

Zhdanov, A. K., Khadeev, V. A., and Khalilova, V. Kh. Amperometric titration of bismuth with potassium iodide in the presence of amidopyrine,

- Khadeev, V. A., and Moiseeva, G. P. Amperometric titration of cobalt with potassium ferricyanide by means of a rotating platinum micro-electrode, 3752.

See also Khadeev, V. A., 2527.

Zheleznova, A. A. See Tarasevich, N. I., 468. Zhiglinskii, A. G. Isotopic spectrographic analysis of lead by a photometric method, 4039.

Zhukhovitskii, A. A. See Turkel'taub, N. M., 1090.

Ziegler, C. A., Chleck, D. J., and Brinkerhoff, J. Radio-assay of low specific-activity tritiated water by liquid scintillation techniques, 1446.

Ziegler, K. See Zuber, H., 4258.

Ziegler, M., and Glemser, O. Detection of titanium with sulphosalicylic acid and tetraphenyl-arsonium salt, 65. Separation of iron from aluminium by extraction as tributylammonium hexathiocyanatoferrate^{III}, 100.

- Glemser, O., and Backmann, A. von. Photometric determination of titanium by extraction as tributylammonium titanium sulphosalicylate,

4042

Glemser, O., and Preisler, E. Photometric determination of cobalt as tributylammonium hexathiocyanatocobalt11, 2649.

Zifferero, M. See Ciranni, G., 1369. Zijlstra, W. G., and Moller, C. J. Spectrophotometry of solutions containing three components and the simultaneous determination of carboxyhaemoglobin and methaemoglobin in human

blood, 627. Zijp, J. W. H. Quantitative determination of antioxidants, after a chromatographic separation on completely acetylated filter-paper. I. Determination of phenyl-I-naphthylamine and phenyl-2-naphthylamine, 1305; II. Determination of some p-phenylenediamine derivatives, 1305; III. Determination of p-(p'-tolylsulphonylamino)-phenyl-p-toluidine, NN'-di-o-tolylethylenediamine and quinol monobenzyl ether [p-benzyloxyphenoll, 3816.

Zil'berg, L. A. Determination of dimethylaniline in the air of industrial premises, 2802.

Zilversmit, D. B. See Van Handel, E., 647.

Zimmer, U. Detection of hydrolysis products in solutions of local anaesthetics of the procaine series, 3134.

Zimmermann, H. See Böhm, M., 1948.

Zimmermann, R. Identification and separation of allantoin, allantoic acid, urea and glyoxylic acid by paper electrophoresis, 636.

Zinkova, É, V. See Markman, A. L., 562.

Zinn, T. L. See Baker, W. J., 1725.

Žirnauskas, J. Paper electrometry, 4398.

Zitko, V. Determination of capsaicin. I. Reaction of capsaicin with diazotised sulphanilic acid.

Zlatkis, A. Resolution of isomeric hexanes by gas - liquid chromatography, 2671.

and Oro, J. F. Amino-acid analysis by reactor gas chromatography, 4252.

Zmítko, J., Brodský, J., and Bíža, V. Automatic recording of gas-chromatographic analyses, 2441.

Zobian, D. See Kunin, R., 2867.

Zolotavin, V. L., and Ogarkova, A. F. Detection of vanadium in qualitative analysis with ferric thiocyanate, 3693.

Zolotov, Yu. A. See Alimarin, I. P., 492.

Zolotukhin, V. K. Detection of aluminium ions, 405.

Zopatti, L. See Read, E. B., 3262.

Zuber, H., Ziegler, K., and Zahn, H. Determination of cysteic acid in keratin by high-tension paper electrophoresis, 4258.

Zubova, G. A. See Selivanova, N. M., 1130.

Zuman, P. Buffered solutions in analytical chemistry, 3961.

See also Manoušek, O., 235.

Zverev, L. V., and Petrova, N. V. Determination of sulphide tin in ores, 2935.

Zvereva, M. N. See Morachevskii, Yu. V., 532.

Zvyagintsev, O. E., and Kulak, A. I. Radiochemical determination of gold and the platinum metals in refined silver and cathode nickel, 3626.

Zvyagintseva, E. N. See Shatenshtein, A. I., 1111. Zwierzchowski, Z. See Kalinowski, K., 2384.

Zýka, J. See Berka, A., 97, 220, 1678, 2489,
Krejzóva, E., 1981, 2161, 3782, Marxová, I., 69,
Michal, J., 3281, 4004, Mráz, L., 2559, and
Schillerová, V., 221.

Zýkov, S. I., and Stupnikova, N. I. Determination of the isotopic composition of lead, 1159.

Zylka, W., and Köhler, T. Quantitative estimations of 5-hydroxytryptamine and 5-hydroxyindolylacetic acid in a case of metastasising intestinal carcinoids, 190.

Zymaris, M. C. See Cheronis, N. D., 2320, and Saifer, A., 3818.

Zyskowski, C. See Hudgens, J. E., 1132.

INDEX OF SUBJECTS

Abietic acid, separation, 3925.

Absorptiometry, application to control analysis, 2453.

comparison of accuracy of photometric and chemical methods, 2869. optical arrangement for, 4372.

Absorption spectrometry. (See Spectrophotometry, absorption.)

Accumulators, determination of PbSO, in, 2939. Acenaphthylene, determination, in presence of

acenaphthene, 1910.

Acetaldehyde. (See also Aldehydes.) chloro-deriv. of, analysis of mixtures of, 3780. determination, 2678.

in blood, 3440.

in presence of formaldehyde and H2O2, polarographic, 4177.

separation, from aldehyde mixtures, chromatographic, 1254.

Acetaldehyde isonicotinoylhydrazone, detection, 1661

5 - Acetamidomethyl - 4 - amino - 2 - methylpyrimidine, determination, 1566.

Acetanilide, determination, potentiometric, 2375. separation and identification, electrophoretic, 692. Acetarsol, determination, 3145, 3878.

polarographic, 247. Acetic acid, detection and determination, 129. determination, in C1 to C4 fatty acid mixtures, 3800.

of H₂O in, 560, 563.

halogenated, separation, paper chromatographic,

separation, paper chromatographic, 3023.

Acetic anhydride, basic behaviour of molecules and ions in, 3247

determination, 1259.

in mixtures with acetic acid and HClO4, 1927. of amides in, potentiometric, 1900. titration of, with water, 563.

Acetoacetic acid, determination, in blood, 1947, 1948

Acetone, determination, 4169.

by pH measurement, 2237.

in air, 4327.

in blood, 1947, 1948.

of H₂O in, 563.

separation from mixtures with methanol and methyl acetate, gas chromatographic, 2228.

Acetone cyanohydrin, determination of HCN in, 875. Acetonitrile. (See Methyl cyanide.)

3-x-Acetonylbenzyl-4-hydroxycoumarin. (See

Warfarin Acetophenetidin. (See Phenacetin.)

2-Acetoxy-m-toluic acid, determination, 4288. Acetyl groups, determination, 1876, 3770.

Acetylacetone, use of, as extraction solvent for metals, 1105.

Acetyl-p-aminosalol, determination, 4288.

Acetylcholine, determination, 4288.

Acetylcholinesterase, determination of activity of,

spectrophotometric, 2356.

Acetyldigitoxin, determination, spectrophotometric,

Acetylene, determination, 2672.

in air, 4326.

in coal gas, gas chromatographic, 3409.

in liquid oxygen, spectrophotometric, 554, 4167.

i.r. spectrophotometric, 120.

homologues of, separation and determination, gas liquid chromatographic, 3775.

N-Acetyl-D-glucosamine, separation, paper chromatographic, 3017

Acetylsalicylic acid, detection, paper chromatographic, 216.

determination, 218, 4288.

chromatographic, 2761.

in binary mixtures, by m.p., 1680.

in mixtures with caffeine and phenacetin, i.r. spectrophotometric, 1587. of salicylic acid in, 232.

potentiometric, 3885. Acid Chrome blue K, use of, in analysis, 3274, 3275. Acid Chrome dark blue, use of, in analysis, 3275.

Acid value. (See Fatty oils.)

Acidimetry. (See Volumetric analysis.)

Acids. (See also Organic acids.)

determination of free, in presence of hydrolysable ions, conductimetric, 2094.

weak, potentiometric titration of, 1762.

Aconitic acid, determination, polarographic, 562. separation and identification, in plasma, paper chromatographic, 3089.

Acraldehyde, separation, from aldehyde mixtures, chromatographic, 1254.

Acrichine. (See Mepacrine.)
Acridine, use of, in analysis, 1867.

Acrylonitrile. (See Vinyl cyanide.)

Actinides. (See Rare earths.)
Actinium, determination, in radioactive minerals, 1508

radiochemical, 3659.

spectrographic data of, 2926.

Activation analysis. (See Radiochemical analysis.) Acyl groups, determination, spectrophotometric, 550

Acylase, determination of activity of, spectrophotometric, 3488.

Adenine, determination, electrophoretic, 1617.

separation and identification, paper chromatographic, 633

Adenosine polyphosphates, determination, 1950, 3846. separation, 643.

Adiphenine hydrochloride, separation and determination, chromatographic, 3889.

Adipic acid, determination of Fe in, u.v. spectrophotometric, 1891.

separation from phthalic acid, chromatographic, 140.

Adrenaline, determination, 2730.

in brain, spectrofluorimetric, 3850.

in plasma, 1613.

fluorimetric, 2729, 3442.

in urine, 632.

fluorimetric, 4241. spectrofluorimetric, 2319.

fluorescence of ethylenediamine deriv. of, 1612. identification, paper chromatographic, 1682.

Adrenaline-continued

separation, by ion exchange, 188.

and determination, paper chromatographic,

Adrenalone, determination, polarographic, 189. Adrenocortical steroids. (See Corticosteroids.) Adsorption, applications to analysis, 1083.

Aerosols, analysis of, gas chromatographic, review, 153

determination of size distribution of, 1707. of volatile - non-volatile ratio of, 273.

Air, analysis of dust particles in, electrophoretic and chromatographic, 3174.

detection of nerve gases in, 4376, 4377. and determination of chloroethylenes in. 3176.

determination of acetone in, 4327.

of acetylene in, 4326.

of alkyl- and aryl-chlorosilanes in, photometric, 712.

of C2 to C5 hydrocarbons in, gas chromatographic, 4210.

of CO2 in, 553.

of Cl- in, spectrophotometric, 2201.

of chloropicrin in, 275.

of dichlorodifluoromethane in, 1706.

of dimethylaniline in, photometric, 2802.

of ethylene in, 1878.

of ethylene oxide in, 711.

of F in, 1201.

of formaldehyde in, 4327.

of halogenated hydrocarbons in, 272.

of y-hexachlorocyclohexane in, i.r. spectrophotometric, 1381.

of hydrocarbons in, 553. mass spectrometric, 4325.

of HCN in, 3175.

of HoS and sulphides in, 4074.

of Hg in, 274.

of nickel carbonyl in, 2001.

of NO2 in, spectrophotometric, 2801.

of parathion in, 732. photometric, 3917. spectrophotometric, 2413.

of parathion-methyl in, photometric, 3917.

of phenol in, spectrophotometric, 2412.

of PH₃ in, 1380.

of poisonous vapours in, 3536.

of potasan and systox in, 732.

of radon and thoron in, 1704.

of sulphides in, 1001.

of SO2 in, 1828.

apparatus for, 3225.

of thiophosphoryl chloride in, 3177.

expired, determination of CO2 in, sonic gas analyser for, 2830.

identification of aromatic hydrocarbons in, 1705. relationship between wt. concn., C content and absorbance value of filtered deposits, 4324.

urban, interpretation of mass spectra of, 3173. Ajmaline, determination, in presence of reserpine and serpentine, paper chromatographic, 1965.

Albumin. (See also Ovalbumin; Proteins.)

determination, in serum, 3098. by isotope dilution, 662.

standard for, 207.

identification, 2299. Alcohol, ethyl. (See Ethanol.)

Alcohols, aliphatic, identification, paper chromatographic, 859.

detection, 3378.

determination, in presence of esters, 2710.

i.r. spectrophotometric, 3015.

sec. and tert., determination, in plant material, photometric, 1712.

Alcohols-continued

separation, by ion exchange, 4198.

from hydrocarbons, 2677.

gas chromatographic, selectivity of liquid substrates in, 1913.

tert., determination, 556.

Aldehydes. (See also Carbonyl compounds.)

aliphatic, determination, in presence of ketones and fatty acids, 1255.

paper chromatographic, 3019.

satd., separation, paper chromatographic, 3020. separation of 2:4-dinitrophenylhydrazones of, chromatographic, 873.

detection, 1551, 3563.

determination, i.r. spectrophotometric, 3015. nephelometric, 2236.

photometric, 2235. potentiometric, 3771.

review, 4178.

identification, as semicarbazones, 3382.

separation, chromatographic, 4179. gas - liquid chromatographic, 1896.

and identification, in fruit, chromatographic, 1754.

specific reagent for, 1889. volatile, determination, 2234.

Aldohexoses, determination, spectrophotometric, 125.

Aldosterone, determination, fluorimetric, 3484. separation and determination, in urine, 1324.

Aldrin, analysis of, review, 1015.

determination, 1017.

separation and identification, paper chromatographic, 1014.

X-ray powder diffraction patterns of, 970.

Alfalfa. (See Lucerne.)

Alginic acid, identification, 2299. Alkali metals, detection, 3604.

determination, flame spectrophotometric, selfand mutual-interference in, 2097.

in borates, halides, nitrates and nitrites, 404.

in fuel ash, flame photometric, 2113. in minerals, flame photometric, 1451.

paper chromatographic, 1114.

potentiometric, 2251.

hydrogen carbonates of, determination, in presence of carbonates, 3265.

hydroxides of, determination, in presence of alkali carbonates, 1115, 2517. of Al and Fe in, spectrophotometric, 1795.

pure, accurate weighing of, 2516. separation, by ion exchange, 2109.

chromatographic, 2888.

tetraphenylborides of, determination, 1116. Alkalimetry. (See Volumetric analysis.)

Alkaline-earth metals, carbonates of, analysis of, 1126.

determination of NO3- in, u.v. spectrophotometric, 1491.

determination, flame spectrophotometric, interference in, 2097. in soil, 1718.

reactions with phthalein complexone, 1790.

with o-trifluoromethyl-o'-hydroxyazo compounds, 1790.

separation, by ion exchange, 1129. chromatographic, 2888, 4009.

for qual. analysis, 3273. Alkaloids, analysis of, 1661.

determination, 218, 1661.

i.r. spectrophotometric, anomalous results with potassium bromide disc technique, 3572. oscillopolarographic, 1664. photographic, 1961.

Alkaloids, determination-continued spectrophotometric, 1662, 2360. u.v. spectrophotometric, 3874.

identification, 3875.

by eutectic m.p. determination, 1334. separation, electrochromatographic, 1663.

solanaceous, determination, paper chromatographic, 4274.

potentiometric, 3105.

spectrophotometric, 3106, 3108.

extraction from crude drugs, apparatus for, 308. Alkoxyl groups, determination, 1545, 2668.

gas - liquid chromatographic, 4163. Alkyd resins. (See Resins, synthetic.)

N-Alkyl groups, identification, paper chromatographic, 859.

O-Alkyl groups, identification, paper chromatographic, 859.

Alkylbenzenes, analysis of, u.v. spectrophotometric,

Alkylbenzenesulphonates, sodium salts of, analysis of, review, 3791.

n-Alkylbenzylmethylammonium halides, separation, paper chromatographic, 2254.

N-Alkylhydroxylamines, detection, 3386.

n-Alkylpyridinium halides, separation, paper chromatographic, 2254.

Alkylthio groups, identification, i.r. spectrophotometric, 1877

n-Alkyltrimethylammonium halides, separation, paper chromatographic, 2254.

Allantoic acid, detection, electrophoretic, 636. Allantoin, detection, electrophoretic, 636.

Allobarbitone, determination, 218, 688.

Alloys, analysis of, by surface treatment, review, 3761.

bearing, analysis of, by ion exchange, 2120. detection of Al in, 407.

determination of Co in, photometric, 2649.

for cermets, analysis of, 2099. Allyl alcohol, determination, potentiometric, 1678. Allylamine, determination, potentiometric, 1678.

Aloes, determination of aloin in, u.v. spectrophotometric, 683.

Aloin, determination, in aloes, u.v. spectrophotometric, 683.

Altax, determination of mercaptobenzothiazole in, 1585.

Alumina. (See also Aluminium.) analysis of, spectrographic, 409.

catalyst, differential thermal analysis of, 801.

determination, in cupola slag, 53. in refractories, photometric, 4023.

in silicates, comparison of methods for, 2556. in slag, 32.

spectrophotometric, 4024.

of Fe₂O₃ and SiO₂ in, spectrographic, 55.

of O in, 471. of Na in, flame spectrophotometric, 15, 1435.

of SO₄²⁻ in, amperometric, 1496. distinction from NiO and Fe3O4, by electron diffraction, 2631.

Aluminium, analysis of, mass spectrometric, 4022. spectrographic, 54, 3284.

co-pptn. of, with MnO2, 480.

detection, 405, 4021.

in alloys, 407. determination, 1165, 1166, 2914, 3283, 3589, 3647, 3648.

amperometric, 1443. automatic, 9. by use of 181 I, 1784. conductimetric, 2915. Aluminium, determination-continued flame photometric, 1435.

fluorimetric, 2554.

in alkali hydroxides, spectrophotometric, 1795.

in aluminosilicates, polarographic, 4025.

in bauxite, spectrographic, 409. in cement, 2137.

in clay, 3646. in coal, spectrographic, 1573.

in copper alloys, 406. photometric, 408.

in dust, 2515.

in ferrosilicon, 4034.

in fuel ash, photometric, 3006. in glass, B.S.I. method for, 1238.

in iron alloys, 1221.

in lead alloys, photometric, 408. in limestone, photometric, 2905.

in presence of Fe, 2633. photometric, 4126.

spectrophotometric, 2555, 2632.

of PO₄3-, 72. in silicates, spectrographic, 1156. in silicon, spectrophotometric, 3649.

in soil, flame spectrophotometric, 2022. in steel, photometric, 106, 1222, 4123, 4125.

spectrographic, 2989. in titanium, 2136, 3297.

in water, spectrophotometric, 2006.

in zinc alloys, by ion exchange, 1796. spectrographic, 47.

of Cu in, photometric, 1452, 3616, 3620. of Fe and Mn in, B.S.I. methods for, 1146.

of Mg in, spectrophotometric, 4010.

of V in, photometric, 3317. potentiometric, 2125

spectrophotometric, 1794, 2125.

reactions with o-trifluoromethyl-o'-hydroxyazo compounds, 1790.

separation, electrochromatographic, 3987. electrophoretic, 1108. from Fe, by ion exchange, 3741.

from Zn, by ion exchange, 395. of Fe from, 1429.

sintered, determination of oxide in, 3285.

Aluminium alloys, analysis of, 56. chromatographic, 1798. spectrographic, 38, 1797, 2138.

determination of Cu in, photometric, 2117. of Fe and Mn in, B.S.I. methods for, 1146. of Mg in, 39, 382, 1458.

spectrophotometric, 1788, 2903, 4010. of U in Al - U, by γ-counting, 3335. of V in Al - V, spectrophotometric, 1436.

Aluminium fluoride, determination of F- in, 837, 3337.

Aluminium hydroxide, determination of Na in, flame spectrophotometric, 15.

Aluminium nitride, determination, in steel, 4120. Aluminium oxide. (See Alumina.)

Aluminium oxinate, determination, potentiometric or spectrophotometric, 2125.

Aluminosilicates, determination of Al, Fe and Ti in, polarographic, 4025.

Amaranth, use of, in analysis, 1832. Amethocaine, determination, 1661. spectrophotometric, 3507.

Amides, aromatic, detection, 4203. determination, in acetic anhydride, potentiometric, 1900.

Amidinotaurine, identification, in urine, by ion exchange, 655.

Amidopyrine, detection, paper chromatographic,

Amidopyrine continued

determination, 690, 2376, 2763, 3492, 3891. amperometric, 3117.

in binary mixtures, by fusion temp., 1680. in presence of caffeine and phenacetin, i.r. spectrophotometric, 3133.

Amine oxidase, determination of activity of, in plasma, 3489.

Amines, aliphatic, alkyl, separation and identification, in urine, 629.

determination, polarographic, 565. spectrophotometric, 564.

identification, 2247.

primary, determination, spectrophotometric, 882

secondary, determination, spectrophotometric, 3385.

aromatic, determination, 690.

identification, 1561.

primary, determination, potentiometric, 2685. identification, 2693.

detection, 132.

determination, 343.

of mol. wt. of, spectrophotometric, 3368. fferentiation from \(\alpha\)-amino acids.

differentiation paper chromatographic, 2738.

preparation and data of picrate deriv. of, 883. primary, determination, 131.

X-ray diffraction powder data for copper N-alkylsalicylaldimine chelates of, 145. secondary, determination, 3785.

separation, chromatographic, 2246.

tertiary and quaternary, determination, spectrophotometric, 3026.

titration of, potentiometric, 4186. use of, as acid extractants, 1261.

Amino acids, α-, identification, paper chromato-graphic, 2738.

analysis of, gas chromatographic, 4252. paper chromatographic, 649, 2735.

characteristics of two-dimensional chromatograms of, 199.

detection, in vinegar, paper chromatographic, 2400. paper chromatographic, 1313, 2336. sensitivity of ninhydrin test for, 3854.

determination, 200, 2234, 2737, 3456, 3457. chromatographic, apparatus for, automatic, 4359.

in foodstuffs, paper chromatographic, 1690.

in fungi, 1366.

in plasma proteins, microbiological, 1637. of a-amino N in, spectrophotometric, 1630.

of N in, 3096.

of primary amino groups in, gasometric, 2734, paper chromatographic, 1314, 1623, 1952, 3458. with direct photometry, 1625.

radiochemical, 3093.

spectrophotometric, 1628, 1631. thermometric, 1315.

identification, paper chromatographic, 650. i.r. spectra of, 1312.

of 3-phenyl-2-thiohydantoins of, 949. iodo-, method of marking with 131 I, 658. purity test for, paper chromatographic, 4250. separation, by ion exchange, 2342, 3459, 4254.

chromatographic, 1627, 4251. electrophoretic, 1983.

from serum, electrophoretic, 2741. from urine, paper chromatographic, 1624. gas chromatographic, 2335.

of deriv. of, by ion exchange, 2736. paper chromatographic, 1626, 1953, 2343, 3856. effect of paper width on, 3853. and detection, electrophoretic, 1629.

Amino acids, separation-continued

and determination, apparatus for, automatic, 4253.

in industrial wastes, paper chromatographic, 2421.

and identification, paper chromatographic, 3855.

soln. of, removal of salts from, apparatus for, 3943.

Amino alcohols, β -, separation and determination,

Amino groups, primary, determination, 1540. gasometric, 2734.

Amino nitrogen, determination, 881.

2-(p-Aminobenzenesulphonamido)-5-ethyl-1:3:4thiadiazole. (See Sulphaethylthiadiazole.)

o-Aminobenzenethiol, use of, in inorganic analysis, 2074.

p-Aminobenzoic acid, determination, 218.

in presence of procaine hydrochloride, photometric, 237.

Y-Aminobutyric acid, determination, photometric, 1358.

identification, electrophoretic, 1983.

4-Amino-4'-chlorodiphenyl, use of, in analysis, 4089.

4-Amino-1:3-dimethyl-5-nitrosouracil, determination, polarographic, 2249. 4-Aminodiphenyl, determination, in diphenylamine,

photometric, 143. p-Aminodiphenylamine, identification, 1561.

β-Aminoethanethiol, determination, potentiometric,

Amino-G acid, determination, in presence of amino-J acid, i.r. spectrophotometric, 592.

Aminoguanidine hydrochloride, determination, 2245. 2-Aminoheptane, identification, paper chromato-graphic, 1682.

1-Amino-4-hydroxyanthraquinone, of, analysis, 1786.

4-Amino-6-hydroxyisophthalic acid, determination, in sodium 4-aminosalicylate, spectrophotometric, 240.

Amino-J acid, determination, in presence of amino-G acid, i.r. spectrophotometric, 592.

Aminomercuric chloride. (See Ammoniated mercury.) 4-Amino-4'-methoxydiphenylamine. (See Variamine blue.)

8-Amino-1-naphthalenesulphonic acid, use of, in analysis, 359.

8-Amino-1-naphthol-3:6-disulphonic acid, separation of 1-naphthylamine-3:6:8-trisulphonic acid from, paper chromatographic, 3808.

Aminonaphtholdisulphonic acids, isomers of, determination, i.r. spectrophotometric, 592.

5-Amino-2-p-nitrophenylimino-4-thiazolidone, of, in analysis, 373.

Aminophenazone, determination, potentiometric,

3-Aminophenol, determination, in 4-aminosalicylic acid, photometric, 1349. spectrophotometric, 2377.

in sodium 4-aminosalicylate, spectrophotometric, 240.

3-Aminophthalhydrazide. (See Luminol.) Aminophylline, determination, 959.

4-Aminosalicylic acid, determination, 218.

in biological material, spectrophotometric, 621. of 3-aminophenol in, photometric, 1349. spectrophotometric, 2377.

sodium salt of, determination of 4-amino-6hydroxyisophthalic acid and 3-aminophenol in, spectrophotometric, 240. use of, in analysis, 4134.

analysis, 4145.

6-Aminothymol, use of, in analysis, 1701.

3-Amino-1:2:4-triazole, determination, spectrophotometric, 1278

4-Amino-1:2:3-triazole, substituted phenyl deriv. of, u.v. spectra of, 3400. Ammi visnaga, determination of khellin in fruits

of, paper chromatographic, 1673. Ammines, metal, study of paper-chromatographic

behaviour of, 3260. Ammonia, detection, 4056.

determination, 1488, 4185.

in blood and plasma, 617.

in gas mixtures, potentiometric, 1489. in mixtures with methylamines, 3784.

in plants containing tannic substances, 3547.

in sea water, 280, 3920.

in soil, 3551.

photometric, 2812. polarographic, 565.

Ammoniated mercury, determination, 400.

Ammonium chloride, determination, spectrographic,

Ammonium \alpha-hydroxyisobutyrate, use of, in analysis, 423

Ammonium iodide, thermal stability of, 339.

Ammonium ion, detection, 1442, 3612.

paper chromatographic, 4077. determination, 70.

paper chromatographic, 1114.

potentiometric, 3250.

Ammonium nitrate, determination, 3421.

Ammonium phenyldithiocarbamate, use of, analysis, 365.

Ammonium phenylhydrazinodithioformate, use of, in analysis, 365.

Ammonium salts, determination, in presence of guanidine salts, potentiometric, 884.

Ammonium sulphate, determination, in antisera, amperometric, 1357.

Ammonium tetramethylenedithiocarbamate, use of, in analysis, 3284, 3296. tetrathiocyanatodiamminochromium, Ammonium

use of, in analysis, 3615.

Amobarbital. (See Amylobarbitone.)

Amperometric titrations. (See Volumetric analysis, amperometric.)

Amphetamine, determination, potentiometric, 3876. spectrophotometric, 1670.

identification, paper chromatographic, 1682. Amyl alcohols, determination, in mixtures, i.r. spectrophotometric, 1587.

isoAmyl gallate, detection, paper chromatographic,

Amyl nitrite, determination of gases in old, gas chromatographic, 778.

Amylase, a-, determination of activity of, in cereals, viscometric, 1986.

in flour and malt, 2778. determination of activity of, 675, 676.

reviews, 979, 1325, 2752, 3161, 3487, 3902. of amino acids in, radiochemical, 3093.

isoAmylene. (See 2-Methyl-2-butene.) isoAmylhydrocupreine, determination, oscillopolarographic, 2363.

Amylobarbitone, detection, 1342.

Amytal. (See Amylobarbitone.)

Anabasine, separation, from tobacco root, paper chromatographic, 958.

Anaesthetics, local, detection of procaine in, paper chromatographic, 3134. identification, 1343.

Analergin. (See Antazoline.)

5-Aminothiazoline-2-thiocarboxyamide, use of, in Analytical chemistry, applications in industry, 2478. in medical research, 2478.

at Department of the Government Chemist, 2478. in USSR, reviews, 1082, 2479.

research in, at Department of Scientific and Industrial Research, 2478.

at Imperial Chemical Industries, 2478. use of automatic measurements in, 2478.

Andesites, analysis of, by ion exchange, 1871. epiAndrosterone, determination, in presence of dehydroepiandrosterone, 671.

Anethole, separation, paper chromatographic, 3052.

Aneurine. (See Thiamine.)

Aniline, determination, in mixtures with methylaniline and dimethylaniline, spectrophotometric, 1271.

with 4:4'-methylenedianiline, i.r. spectropotentiometric, 2685, 4186. potentiometric, 2685.

identification, 1561.

5-Anilino-2-mercapto-1:3:4-thiadiazole, use of, in analysis, 1792

Animal tissue, analysis of, 2327.

determination of Cu in, spectrophotometric, 1943. of endrin in, spectrophotometric, 4349.

of heparin in, 640. of morphine in, 3437.

of tyrosine in, fluorimetric, 2739.

human, analysis of trace elements in, spectrographic, 601.

preparation of samples for analysis, 3071. separation of histamine in, review, 2731.

Anion exchange. (See Ion exchange.) Anionic detergents. (See Detergents.)

Anisaldehyde, determination, nephelometric, 2236. Anisidine, o- and p-, identification, 1561.

Anisil dioxime, analytical properties of, 1442. p-Anisyl blue ditetrazolium chloride. (See (See Blue tetrazolium.)

p-Anisyl tetrazolium blue. (See Blue tetrazolium.) Ankerite, analysis of, 4149.

Anodes. (See Electrodes.) Antacids, evaluation of, in humans, 975.

Antazoline, determination, 225. spectrophotometric, 3509.

Anthracene, determination, 2698. Anthracene oil, determination of C and H in, 910. Anthracite, determination of S in, comparison of methods for, 3804.

Anthraquinone, deriv. of, determination, polarographic, 893.

dihydroxy- deriv. of, determination, spectrophotometric, calibration curves for, 1336.

Anthrone, deriv. of, analysis of, polarographic, 892. distinction from anthraquinones, polarographic,

use of, in analysis, 945.

Antibiotics. (See also individual compounds.) assay of. 3884.

of mixtures of, mutual interference of, 2373. identification, 1338.

polypeptidic, identification, paper chromatographic, 1968.

solubility in various solvents of, 963. test organisms for assay of, review, 3120.

Anticholinesterases, analysis of, review, 1569. detection, 4376, 4377.

determination, polarographic, 4191.

Antihistamines, determination, by ion exchange, 1683.

identification, 971, 4292.

separation and detection, paper chromatographic, 4293.

Antimalarials, determination, by ion exchange, 253. Antimony, analysis of, by neutron activation

analysis, 2955. detection, 457, 458.

in presence of As and Bi, 3311. determination, 460, 2174, 3310, 4068.

amperometric, 1443. in anti-friction metals, 3990.

in Sb - Cu concentrates, polarographic, 3685.

in calamine, polarographic, 48.

in cast iron, spectrophotometric, 1525.

in copper, photometric, 1817.

polarographic, 108. in copper alloys, 4069. photometric, 3686, 3690.

in industrial wastes, 2015. in iron, polarographic, 108.

in lead, 461.

spectrophotometric, 3688. in organic compounds, 855.

in presence of Cu, photometric, 77. of Pb and Sn, by ion exchange, 3687.

in silicon, γ-spectrometric, 800. in steel, polarographic, 108.

in type metal, 3665. spectrographic, 1805.

influence of Cu and Pb on, 3684.

of As in, 2954.

of metallic impurities in, 3689.

photometric, 1816. potentiometric, 459.

spectrophotometric, 2592.

separation, electrochromatographic, 3987. from Au, Pd, Pt and Ru, electrophoretic, 3261.

from Hg, 2207. from Sn, by ion exchange, 3664.

of Nb from, 1494.

Antimony alloys, analysis of, spectrographic, 2221. determination of Pb in Sb - Pb - Sn, 3295.

Antioxidants, analysis of, paper chromatographic, 1995.

determination, in rubber, paper chromatographic, 1305, 3816.

Antipyrin. (See Phenazone.)

Antisera, determination of ammonium sulphate in, amperometric, 1357.

Antu, separation and identification, paper chromatographic, 2810.

Apple pulp, detection, polarimetric, 2789.

Arabinose, identification and determination, spectrophotometric, 3445.

L-, separation, paper chromatographic, 866. separation and determination, paper chromato-

graphic, 3086. Arachis oil, separation, from fatty oils, paper chromatographic, 3908.

Aramite, determination of residues of, spectrophotometric, 3554.

Arbutin, determination, paper chromatographic, 283.

Arecoline, determination, 3878. polarographic, 221, 247.

Argentimetry. (See Volumetric analysis.)

Arginine, determination, in protein hydrolysates, spectrophotometric, 205.

separation, on ion-exchange paper, 2338. Argon, analysis of mixtures with N and O, 2602.

determination, gas chromatographic, 3264. (See 4:4'-Tetramethyldiaminodi-Arnold's base. phenylmethane.)

Arsenate, determination, 1815. separation, chromatographic, 456. Arsenazo, use of, as indicator, 3986.

Arsenie, detection, 1814.

in presence of Sb and Bi, 3311. and determination, in wood, 2424

determination, 2172, 2591, 3310, 4064. amperometric, 1443.

coulometric, 4007. electrolytic, 2953.

in alloys, 4066.

in biological fluids, spectrographic, 1944.

in calamine, polarographic, 48. in calcium arsenate, by ion exchange, 1171.

in carbon black, 3619.

in coal and coke, spectrophotometric, 3683.

in iron, B.S.I. standard for, 3345.

spectrophotometric, 2645. in iron alloys, potentiometric, 1170.

in Fe - Mn ores, photometric, 4067.

in lead, 1492.

in metals, 2954.

in reforming catalysts, by neutron activation analysis, 2283.

in selenium, spectrophotometric, 4083.

in silicon, y-spectrometric, 800.

in steel, 4129.

B.S.I. standard for, 3345. spectrophotometric, 2645.

nephelometric, 454.

of As3+ and As5+, polarographic, 4065.

photometric, 453. polarographic, 76. potentiometric, 2173.

separation, electrochromatographic, 3987.

from Au, Pd, Pt and Ru, electrophoretic, 3261. from Pb, 2207.

of carrier-free, from cyclotron targets, by ion exchange, 3581.

(See

Arsenite, determination, 455, 1172. amperometric, 4391.

eparation, chromatographic, 456. o-Arsonophenylazochromotropic acid.

Arsenazo. 2-o-Arsonophenylazo-1:8-dihydroxynaphthalene-

3:6-disulphonic acid. (See Arsenazo.) Arterenol. (See Noradrenaline.)

Arylamines. (See Amines.)

Asafoetida, determination of organic S in, spectrophotometric, 3128.

Ascaridole, determination, in chenopodium oil, 687. calculation of results, 962.

Ascorbic acid, determination, 271, 1378, 2800.

amperometric, 1379. by ion exchange, 1998.

in blood, 4233.

in fruit and vegetable extracts, potentiometric, 710.

in fruit juice, potentiometric, 2411.

in presence of sodium hydrogen sulphite, 709. u.v. spectra of, 1702.

use of, in analysis, review, 3966.

Asparagine, determination, in a-chymotrypsinogen, 2339.

in plants, spectrophotometric, 4333. in proteins, 3465.

Aspartic acid, determination, in presence of citric, malic and succinic acids, 654. photometric, 1358.

separation and determination, by ion exchange, 3094.

Asphalt, i.r. and u.v. spectra of, 2291. Aspirin. (See Acetylsalicylic acid.)

Atropine, determination, 1661.

potentiometric, 3105. spectrophotometric, 3106, 3108, 3493. Atropine hydrochloride, determination, by ion exchange, 1669.

Aviation spirit. (See Petrol.)

Azeotropes, analysis of, gas chromatographic, 2228. Azides, determination, 2161.

Azo dyes. (See Dyes.)

Azobenzene, determination, in mixtures with diphenyl ether and diphenylamine, i.r. spectrophotometric, 4227

2:2'-Azobisisobutyronitrile, determination, polarographic, 567.

Azorubine, use of, in analysis, 1832.

Azovan blue, determination, in plasma and serum, comparison of methods for, 3829.

BAL. (See Dimercaprol.)

BHC. (See Hexachlorocyclohexane.)

Bacitracin, assay of, 2371.

Balance, automatically recording vacuum, 294. density, 733.

micro-, effect of temp. on precision and performance of, 295. quartz beam, 293.

Banthine bromide. (See Methanthelinium bromide.) Barbitone, determination, in binary mixtures with other barbiturates, u.v. spectrophotometric,

Barbiturates. (See also individual compounds.) β-bromallyl-, detection, paper chromatographic,

detection, 234, 1342, 1553.

paper chromatographic, 2725.

and determination, in biological materials, oscillopolarographic, 3083.

determination, 688, 3505.

in plasma and urine, u.v. spectrophotometric, 3438.

i.r. spectrophotometric, anomalous results with potassium bromide disc technique, 3572. identification, i.r. spectrophotometric, 3130.

paper chromatographic, 968, 969. separation, by ion exchange, 1677. Barbituric acid, determination, 218, 3042.

Barium. (See also Alkaline-earth metals.) analysis of binary mixtures with Co, Cu, Pb or Ni, potentiometric, 3257.

determination, 3633.

flame photometric, 389. in biological material, 3077.

in bone, by neutron activation analysis, 601.

in industrial wastes, 2015.

in meteorites, radiochemical, 3723.

in nickel alloys, potentiometric, 390. in presence of Ca and Sr, flame photometric, 3634.

of Pb, potentiometric, 1442. of Zn, 1462.

in zirconium, 1131, 2541.

nephelometric, 4013.

of 140Ba, in bone, dairy products, plants and soil, radiochemical, 3433. paper chromatographic, 780.

spectrophotometric, 2907.

dissociation constant of 160 Ba, 1474.

reactions with o-hydroxy-o'-sulphoazo compounds,

separation, chromatographic, 4009.

from Ca, Mg and Sr, paper chromatographic,

radiochemical, 2542.

and determination, polarographic, 3635. and identification, 798.

Barium carbonate, 14C-labelled, analysis of, 1801. Barium sulphate, determination of O in, 471.

pptn. of, effect of colloidal organic matter on, 2023. study of reduction of, for sulphur isotopic measurements, 2184.

Barium thiosulphate, thermal stability of, 339.

Barley, determination of N in, 986.

identification, in ground cereals, 977. separation of gramine from, paper chromato-

graphic, 3901

Basic slag. (See Slag.)
Bathocuproine. (See 2:9-Dimethyl-4:7-diphenyl-1:10-phenanthroline.)

Batyl alcohol, determination, 123.

Bauxite, determination of Al, Fe, Si and Ti in, spectrographic, 409. of phosphate in, 1168.

Bayer 17147. (See Guthion.) Bayer L 13/59. (See Dipterex.)

Beckman spectrophotometer. (See Spectrophoto-

Beer, calculation of original extract of, 3159, 3160. determination of Ca and Mg in, 988.

of proteolytic activity of enzyme prep. used for stabilisation of, 1370.

of SO₂ in, spectrophotometric, 3162.

of thiol content of, amperometric, 2396.

Beet sugar. (See Sugar, refined.)
Belladonna, determination of alkaloids in, comparison of methods for, 3107. potentiometric, 3105.

Benzaldazine, determination, 2245.

Benzaldehyde, detection, 1551.

determination, in stewed fruit juice, polarographic, 3900. potentiometric, 220.

Benzalkonium hydrochlorides, separation, electrophoretic, 4219.

Benzathine, identification and determination, in benzathine penicillin, 964.

Benzathine penicillin. (See Penicillin.)

Benzedrine. (See Amphetamine.)

Benzene, chlorinated, analysis of reaction mixtures of, 2284.

determination of benzene and chlorobenzenes in, i.r. spectrophotometric, 1587.

crude, determination of unsaturated hydrocarbons in, 3045.

deriv. of, identification, 3040.

detection of carbonyl compounds in, chromatographic, 3788. determination, 137.

in toluene, gas chromatographic, 3564.

of CS2 in, spectrophotometric, 2260. of Cl in, amperometric, 1918.

of purity of, cryoscopic, comparison of methods for, 568.

of H2O in, 563.

separation, chromatographic, 2675.

and determination of isopropyl alcohol in, gas chromatographic, 3564.

Benzene hexachloride. (See Hexachlorocyclohexane.) Benzenedicarboxylic acids, esters of, analysis of, i.r. spectrophotometric, 1269.

Benzeneselenous acid, use of, in analysis, 2075. Benzenesulphinic acid, use of, in analysis, 67, 2075.

Benzene-1:2:4:5-tetracarboxylic acid, separation, paper chromatographic, 4202.

Benzethonium chloride, identification and determination, u.v. spectrophotometric, 4189. separation of constituents of, electrophoretic, 4219.

Benzidine, identification, 1561. Benzil dioxime, analytical properties of, 1442. Benzoic acid, determination, in mixtures with hippuric acid, spectrophotometric, 1615. identification, paper chromatographic, 1373. and determination, in egg products, 994.

separation, paper chromatographic, 4202. thermal stability of, 339.

Benzole, determination, in coke-oven gas, 1575. Benzo(a) pyrene. (See 3: 4-Benzopyrene.)

3:4-Benzopyrene, chromatographic behaviour of, 891.

detection, 1911, 3399.

determination, spectrophotometric, 2706. separation, from 3:4-9:10-[a,e]-dibenzopyrene, 3399.

Benzotriazole, deriv. of, determination, 4209. 1:2:3-, use of, in analysis, 2220.

2(3)-Benzoxazolinone, determination, in rve seedlings, spectrophotometric, 3550.

Benzoyl peroxide, determination, in plastics, polarographic, 3813.

N-Benzoyl-4-aminosalicylic acid, calcium salt of, determination, photometric, 241.

1-Benzoylethanol, polarographic behaviour of, 3397. N-Benzoyl-N'-phenylhydrazine, use of, in analysis,

N-Benzoyl-N-phenylhydroxylamine, of. analysis, 1821, 3293.

Benzyl alcohol, determination, in presence of benzyl benzoate, 2710.

p-Benzyloxyphenol, separation and determination, in rubber, paper chromatographic, 3816.

Berberine, determination, by ion exchange, 3111. Beryl, determination of Be in, 2533.

of Cs and Rb in, X-ray spectrographic, 786.

Beryllium, analysis of, review, 2531.

spectrographic, 448, 2532. detection and determination, spectrophotometric, 3274.

determination, 379, 1166, 2899.

fluorimetric, 2140. in beryl, 2533.

in minerals, chromatographic, 358.

in ores, by neutron activation analysis, 2534. in presence of Al, 2901.

of O in, 2902.

4263.

radiochemical, 1787.

spectrophotometric, 1786, 2900.

separation, electrochromatographic, 3987. electrophoretic, 1108.

from Cu and Ni, by ion exchange, 37. from MoO42- and PO43-, 37.

Beryllon II, use of, in analysis, 4011.

Betaine, determination, in presence of hexamine, spectrophotometric, 3879.

identification, 3587. Beverages. (See also individual products.) determination of sugar in, 2395.

of titratable acidity of, potentiometric, review, 4312.

Bile, detection, in serum and urine, 638. determination of cholesterol in, spectrophoto-

metric, 1957. of uric acid in, by ion exchange, 635.

Bile acids, determination, in blood, 639. identification, paper chromatographic, 3486. separation of C27 steroids in, chromatographic,

Bilirubin, detection, in urine, 4238. determination, in plasma, photometric, 3834. spectrophotometric, 3443.

in serum, spectrophotometric, 2325.

Bindschedler's green, prep. and properties of, 2486.

Biological tissue. (See also Animal tissue: Plant tissue. determination of Mn in, spectrophotometric, 1593.

of radioactivity of, 3540.

4:4'-Biphenol, determination, in mixtures with 4-phenylphenol, i.r. spectrophotometric, 4227. 2:3-4:5-Bis(\(^2\)-butenylene) tetrahydrofurfural, sep-

aration, paper chromatographic, 2808.

Bis-(2-chloroethyl)sulphide, determination of di-(2-chloroethylthio)ethane in, 2689 3:3'-Bis-NN-di(carboxymethyl)aminomethylthymol-

sulphonephthalein. (See Methylthymol blue.) Bis-(p-dimethylaminophenyl)amine, use of, as re-

agent for characterisation of fatty acids, 4246. 4:4'-Bis(dimethylamino)thiobenzophenone. 4:4'-Tetramethyldiaminothiobenzophenone.)

Bismuth, detection, in presence of Sb and As, 3311. paper chromatographic, 2176. determination, 462, 1173, 1979, 2594, 2882, 3312,

3313, 3692.

amperometric, 1443, 2956, 3691.

by isotope dilution, 2862. in aluminium alloys, 56.

in cast iron, polarographic, 2215.

in iron, polarographic, 3270. in lead, 437.

photometric, 2957.

and lead alloys, spectrophotometric, 1818. in minerals, polarographic, 3270.

in mixtures with Ca and Cd, potentiometric, 3258.

in pharm. prep., 1686, 3892.

in presence of Cu and Pb, polarographic, 2595. of PO₄³⁻, 72. in tin, photometric, 2957, 3314.

of Fe in, photometric, 78. spectrophotometric, 2212.

of Mg, K and Na in, spectrographic, 3315. photometric, 2074, 3298. polarographic, 33.

spectrophotometric, 2175.

separation, electrochromatographic, 3987. electrolytic, 2177.

electrophoretic, 2551.

from Co, Cu and Fe, by ion exchange, 782. from molybdenum, nickel and tungsten alloys, by co-pptn., 2549.

Bismuth alloys, analysis of Bi - U, 79.

by ion exchange, 1819. determination of Bi in Bi-Th, photometric, 3298.

of Ca and Zr in Bi - U, spectrographic, 3278.

of Ce in, photometric, 422.

of Mg, K and Na in Bi - U, spectrographic, 3315. of U in, 1843.

separation and determination of Th and U in, by ion exchange, 2596.

Bis-NNN'N'-tetramethylphosphorodiamidic hydride. (See Schradan.)

Bitter almond water, determination of CN- in, 256. Bitumen, determination of viscosity of, apparatus for, 1048.

"Black-liquor", analysis of, 1932, 3056.

Blood. (See also Blood plasma; Blood serum.) analysis of, 3422.

determination of acetaldehyde in, 3440.

of acetoacetic acid in, 1948. of acetone in, 1947, 1948.

of NH₃ in, 617.

of As in, spectrographic, 1944. of ascorbic acid in, 4233.

of bile acids in, 639.

Blood, determination-continued

of CO in, i.r. spectrophotometric, 616. spectrophotometric, 3435.

of carboxyhaemoglobin, methaemoglobin and oxyhaemoglobin in, simultaneous, spectrophotometric, 627. of carbutamide in, spectrophotometric, 3084,

of chloral hydrate, trichloroacetic acid, trichloroethanol and urochloralic acid in, 183.

of chlorpromazine in, 1599. spectrophotometric, 3826.

of cholesterol in, spectrophotometric, 3473.

of Cu in, paper chromatographic, 3614. spectrophotometric, 1943.

of corticosteroids in, 1959.
of NN-dimethyl-p-phenylenediamine oxidase activity in, 1658

of ethanol in, simplified calculation for, 1597. spectrophotometric, 938, 3436.

of fibrinogen in, paper electrophoretic, 174. of galactose in, spectrophotometric, 2727.

of glucose in, spectrophotometric, 3087, 3830.

of glycerol in, spectrophotometric, 1307. of histamine in, 3850.

of \(\beta\)-hydroxybutyric acid in, 1947.

of 5-hydroxytryptamine in, 3850.

of inulin in, 3088.

of ketones in, spectrophotometric, 1607, 2321.

of lactic acid in, 626. of morphine in, 3437.

of Ni in, spectrophotometric, 935.

of oestradiol, oestriol and oestrone in, 955.

of 17-oxosteroids and 17-oxogenic steroids in, 1958.

of O in, 615, 930, 931. polarographic, 1941, 3072.

spectrophotometric, 612, 613, 614, 932.

of pH of, 173.

of phylloerythrin in, spectrophotometric, 3832. of ²¹⁰Po in, 3434.

of protein in, 664.

of prothrombin in, 637.

of pyrazinamide in, 1945.

of reducing sugars in, spectrophotometric, 2320.

of steroids in, 3476.

of sugars in, 624.

of sulphonamides in, spectrophotometric, 3084.

of Tl in, photometric, 4229. polarographic, 3080.

of thrombin in, 2323.

of urea in, 1603.

turbidimetric, 1604.

protein, identification of nucleic acids in, u.v. spectrophotometric, 2745.

reaction of, with diphenylamine, 175.

separation and determination of cholesterol in,

spectrophotometric, 2748. of histamine in, review, 2731. spectrophotometric study of, 3425.

Blood plasma. (See also Blood.)

determination of adrenaline and noradrenaline in, 1613.

fluorimetric, 2729, 3442.

of amine oxidase activity in, 3489.

of NH₃ in, 617.

of azovan blue in, comparison of methods for, 3829.

of barbiturates in, u.v. spectrophotometric,

of bilirubin in, photometric, 3834. spectrophotometric, 3443.

of Ca in, 607.

spectrophotometric, 3427.

Blood plasma, determination-continued

of cholesterol and cholesteryl esters in, radiochemical, 669.

of 17:21-dihydroxy-20-oxosteroids in, 211.

of fibrinogen in, comparison of methods for, 940

turbidimetric, 2324. of histamine in, 3848, 3850.

of 17-hydroxysteroids in, spectrophotometric, 4267

of 5-hydroxytryptamine in, 3850.

of Fe in, spectrophotometric, 618.

of isoniazid in, spectrophotometric, 1598.

of morphine in, 3437.

of peptides and proteins in, spectrophotometric, 3464.

of protein-bound I in. 611.

of prothrombin in, 3839.

of salicylic acid in, spectrophotometric, 620. of thyroxine and tri-iodothyronine in, paper chromatographic, 641.

of tyrosine in, fluorimetric, 2739.

of uric acid in, comparison of methods for, 634.

of vitamin A in, photometric, 3836.

of vitamin B12 in, 3534.

proteins, determination of amino acids in, microbiological, 1637.

preparation of samples for radio-assay, 2344.

recovery of creatinine from, 187.

separation and determination of aspartic, cysteic and glutamic acids in, by ion exchange, 3094.

of uric acid in, paper chromatographic, 4235. of xanthines in, paper chromatographic, 4235. **Blood serum.** (See also *Blood.*)

analysis of lipids in, 646.

detection of bile in, 638.

determination of albumin and globulin in, 3098.

of azovan blue in, comparison of methods for,

of bilirubin in, spectrophotometric, 2325. of Ca in, 602, 605, 1591, 2312, 3819, 3820. flame photometric, 3075. photometric, 603, 3074.

spectrophotometric, 1590, 1592, 3427. of C-reactive protein in, 1955.

of carotenoids in, spectrophotometric, 1616.

of Cl- in, electrometric, 3821. spectrophotometric, 4228.

of cholesterol in, 1650. fluorimetric, 1649, 2351.

spectrophotometric, 1648, 2747, 4262.

of Cu in, spectrophotometric, 3428.

of glucose in, 4230.

of histamine in, spectrophotometric, 3849. of I in, 1306, 2313, 3078.

of Fe in, spectrophotometric, 618, 3428, 3824.

of isoniazid in, spectrophotometric, 184, 1598. of lipase in, 213.

of Mg in, 2311. photometric, 603.

spectrophotometric, 1589.

of meprobamate in, spectrophotometric, 2317.

of peptides in, spectrophotometric, 3464. of phenylalanine in, 3845.

paper chromatographic, 3095, 3461.

of phenylpyruvate in, 3845.

of phospholipids in, spectrophotometric, 4248.

of P in, spectrophotometric, 4248. of K in, 1941.

flame photometric, 286. of protein-bound I in, 1646.

of quinidine and quinine in, spectrophotometric, 2316.

cxxii Blood serum, determination-continued of Na in, by neutron activation analysis, 2310. flame photometric, 286. spectrophotometric, 1588. of sulphanilamide in, spectrophotometric, 3439. of sulphobromophthalein in, spectrophotometric, 2318. of tetracycline and deriv. in, biological, 3082. of thyroxine and tri-iodothyronine in, paper chromatographic, 2326. of tolbutamide in, spectrophotometric, 3827. of total iron-binding capacity of, 619. of triglycerides in, 647. of uric acid in, spectrophotometric, 2328, 3831. of vitamin A in, photolytic, 3837. of vitamin B₁₂ in, biological, 3838. protein-free filtrates of, spectrophotometric absorption of, 1600. proteins, determination, electrophoretic, 1638. eliminat on of interference in, 952. of hexoses in, spectrophotometric, 1640. spectrophotometric, 3464. human, analysis of, agar electrophoretic, 1318. separation, 2744. comparison of methods for, 2346. electrochromatographic, 2347 electrophoretic, 1319, 1956, 2345, 3859. effect of buffer on, 2349. separation, electrochromatographic, 3469. of amino acids in, electrophoretic, 2741. of glycoproteins in, electrophoretic, 1639. of ¹³¹I in, paper chromatographic, 3432. of lipoproteins in, electrophoretic, pre-staining procedure for, 1645. starch-impregnated filter-paper for, 648. of uric acid in, electrophoretic, 3441.

Blue tetrazolium, 5:5'-p-anisyl-2:2'-diphenyl deriv. of, use of, in analysis, 1547, 2320. Body fluids, determination of pH of, 173. Boiler water. (See Water, boiler.) Boiling-point, determination of mol. wt. by. apparatus for, 1070, 2845, 3221. of organic liquids, apparatus for, 2844.

Bone, determination of 180 Ba and 90 Sr in, radiochemical, 3433. of F- in, comparison of methods for, 836. of minerals in, from roentgenograms, 936. of Sr and Ba in, by neutron activation analysis, 601. separation of Ca, K and Na from, by ion exchange, Bone marrow, determination of Fe in, 1594. Boranes, determination, 3033. Borates, determination of alkali metals in, 404. Boric acid, detection and determination, fluorimetric, determination, in egg products, 994. polarographic, 1467. Borneol, isomers of, determination, i.r. spectrophotometric, 3037. Boron, determination, 51, 401, 1137, 3642. by ion exchange, 2913. by neutron activation analysis, 3644. coulometric, 3643. fluorimetric, 4020. in ferrous metals, 844. in fertilisers, flame spectrophotometric, 1012. in glass, B.S.I. method for, 1238. in graphite, spectrographic, 1142, 1143.

in lead fluoroborate, by ion exchange, 438.

chromatographic, 358.

spectrographic, 380.

in minerals, by neutron activation analysis, 403.

Boron, determination-continued nickel hydroxyfluoroborate electrolytes, in nickel-plating soln., flame spectrophotometric, 3001. in ores, spectrographic, 380. in organic compounds, 1555. in silicates, spectrophotometric, 3645. in silicon, 1793. in steel, photometric, 1225, 1226. spectrographic, 4122. in titanium alloys, by ion exchange, 1144. in U - Zr alloys, 1145. spectrographic, 2552. spectrophotometric, 52, 402, 796, 1139, 1140, 1141, 4019. limit of, in p-type Si, from Hall coeff. measurement, 1776.
 Boron alloys, analysis of B - Th and B - U, 3282. Boron hydrides, determination, 1138. separation, gas chromatographic, 50. Boron, organic compounds of, determination of B in, 1555. of C, H and N in, 1538. Bourbonal, determination, polarographic, 2714. Brandy, determination of methanol in, 3776. Brass, analysis of, 3268. spectrographic, 3991. determination of Cu in, 2116. amperometric, 2527 of Pb in, electrolytic, 2153. of Zn in, 2116, 2546, 3638. amperometric, 2527. by thermometric titration, 3637. Brazilin, use of, as redox indicator, 8. Bread, determination of acidity of, 2779. of DDT in, 1985. of peroxides in, 3527. Brilliant green, use of, in analysis, 3538. Brine, determination of Fe in, spectrophotometric, 3739. of Mg in, spectrophotometric, 3627. of Hg in, spectrophotometric, 2912. Bromadal. (See Carbromal.) Bromate, determination, 3021. in presence of Br-, 2627. of Cu, 510. of IO₃⁻, 4112. separation, by ion exchange, 3728. Bromide. (See also Halides.) determination, 2161, 3731. by ion exchange, 1849. in molasses, photometric, 2776. in presence of Cl- and 1-, 509. in water, 2202. separation, from Cl-, electrophoretic, 2514. and I-, chromatographic, 508. Bromine. (See also Halogens.) determination, in organic compounds, 854, 2667, 3362, 3768, 4157. X-ray spectroscopic, 1249. of Cl in, 2200. of water in, i.r. spectrophotometric, 3069. separation from Cl and I, chromatographic, 96. Bromisoval. (See Bromvaletone.) Bromoacetic acid, deriv. of, separation, paper chromatographic, 4182. detection, 880. Bromoamine, determination, in natural water, 2806. Bromobenzotriazole, use of, in analysis, 1442, 2220. Bromocholine, determination, polarographic, 236. 4-Bromodiphenyl, determination, in mixtures with

4:4'-dibromodiphenyl, i.r. spectrophotometric,

4227.

Bromoform, determination, in drugs, polarographic, 1675

1-Bromo-2-(1-hydroxycyclohex-1-yl)acetylene, detection, 1352

1-Bromo-3-methyl-3-(p-nitrobenzoyloxy)pent-1-yne, detection, 1352

1-Bromo-3-methylpent-1-yn-3-ol. detection and determination, 1352 Bromopentanes, determination, i.r. spectrophoto-

metric, 1587.

of pentan-2-ol in mixtures with, i.r. spectrophotometric, 3817.

Bromopropionic acids, separation, paper chromatographic, 4182.

N-Bromosuccinimide, oxidising action of, 2489. use of, in analysis, 97.

Bromothallic acid, use of, in analysis, 3587.

Bromvaletone, determination, polarographic, 219,

Bronze, analysis of, 3268.

determination of Be in, radiometric, 1787. of Cu in, amperometric, 2527. of Zn in. 2546.

amperometric, 2527.

Buclizine, determination, by ion exchange, 1683.

Buffer solutions, use of, in analysis, 3961.

Burette, automatic recording, 1398. for titanimetric titrations, 300. gas, mercury-in-glass, 2436. stopcock twister for, automatic, 1727.

1:3-Butadiene, determination, in C4 hydrocarbons, i.r. spectrophotometric, 1587. of individual paraffins and olefins in, gas

chromatographic, 2673.

Butane, n- and iso-, analysis of, i.r. spectrophotometric, 1587, 3817.

Butane-1:3-diol, determination, in wine, photometric, 701.

Butane-2:3-diol. isomers of, separation, by ion exchange, 861.

Butanol, determination, in mixtures with ethanol, microbiological, 860.

n-, separation from mixtures with n-butyl acetate, di-n-butyl ether and water, gas chromatographic, 2228.

Butazolidin. (See Phenylbutazone.)

Butenes, 1- and 2-, analysis of, i.r. spectrophotometric, 1587.

determination, in C₄ hydrocarbons, i.r. spectro-photometric, 1587.

Butter. (See also Dairy products.) determination of rancidity of, 3157.

i.r. reflection spectra of, 698.

Butter fat, analysis of, gas chromatographic, 1364. n-Butyl acetate, separation from mixtures with n-butanol, di-n-butyl ether and water, gas chromatographic, 2228.

Butyl p-hydroxybenzoate, chromatographic, 1373. identification, paper

tert.-Butyl hypochlorite, use of, in analysis, 2243. isoButyl methyl ketone, properties of, 3383. use of, in analysis, 810, 822.

tert.-Butyl per-esters, analysis of, 2681.

2-n-Butylamino-1-p-hydroxyphenylethanol phate, determination, 4291.

hydroxyanisole, detection, Butylated paper chromatographic, 1995. separation and identification, paper chromato-

graphic, 995. Butylated hydroxytoluene, separation and identification, paper chromatographic, 995.

isoButylene, analysis of, i.r. spectrophotometric,

determination, in C4 hydrocarbons, i.r. spectrophotometric, 1587.

2-(p-tert.-Butylphenoxy)-1-methylethyl 2-chloroethyl sulphite. (See Aramite.

N-n-Butyl-N-sulphanilyl-urea. (See Carbutamide.) Butyric acid, determination, in C, to C, fatty acid mixtures, 3800.

separation, paper chromatographic, 3023.

C. I. 202. (See Eriochrome blue black R.)
C. I. 203. (See Eriochrome black T.)
CMU. (See N-p-Chlorophenyl-N'N'-dimethylurea.) C.O.D., determination, of industrial wastes, 2014. of natural water, 278, 279.

of sewage, 279. Cacao, products of, determination of shell constituents in, comparison of methods for, 985.

Cacao beans, analysis of fats in, 264. Cacodylic acid, use of, in analysis, 3323, 3600. Cadion. (See p-Nitrophenyldiazoaminoazobenzene.)

Cadmium, analysis of, spectrographic, 4018. complex iodides of, analytical applications of, 397. concentration of traces of, by co-pptn., 2510. co-pptn. of, with anthranilic acid, 2910. detection, 396, 1442.

in sea water, spectrophotometric, 1388. determination, 1136, 1791, 2511, 2547, 2548, 2882, 2911, 3640. amperometric, 1135.

by anodic stripping polarography, 1745.

in electroplating soln., polarographic, 1465. in glass, polarographic, 398. in indium, polarographic, 57.

in industrial wastes, 2015. in mixtures with Bi and Ca, potentiometric,

3258. in presence of Cu, 2116.

of PO₄³⁻, 72. influence of citrates and tartrates on, 1466.

of Cu in, photometric, 3620. paper chromatographic, 780.

simultaneously with Zn, potentiometric, 4016. polarographic behaviour of, 2142. in fused borax, 4003.

pptn. of, with thioacetamide, 4017. separation, electrochromatographic, 3987.

electrophoretic, 2551. from Co, Cu and Fe, by ion exchange, 782.

from Cu, 1429. from molybdenum, nickel and tungsten alloys,

by co-pptn., 2549. solubility products of xanthates of, 1106. Caesium, analysis of 184Cs - 187Cs mixtures, 2112.

spectrographic, 1435. co-pptn. of, with thallous salts, 2110.

detection, 1442. paper chromatographic, 4077.

and determination, 3612 determination, in beryl, felspar and mica, X-ray

spectrographic, 786. in iron and sodium salts, spectrographic, 1120.

in sodium and Na - K alloys, 3606. of 137Cs in rain water, 2013.

paper chromatographic, 1114. polarographic, 3605

potentiometric, 3250 spectrophotometric, 364.

liquid, sampling and analysis of, 3995. organic compounds of, solubility in water of, 2521. Caesium-continued radioactive, determination, 1782, 3997. in natural water, 717. separation from fission products, 2111. from Rb, chromatographic, 363. from Ru, Te and rare earths, by ion exchange, 821. from sea water, by ion exchange, 716. Caffeic acid, determination, in presence of chlorogenic acid, 2269. separation and determination, in urine, 4242. Caffeine, detection, paper chromatographic, 4190. determination, 3115, 3891. amperometric, 3117. chromatographic, 2761. in binary mixtures, by m.p., 1680. in coffee, 984. in mixtures with acetylsalicylic acid and phenacetin, i.r. spectrophotometric, 1587. in presence of amidopyrine and alkaloids, 224. in tea and coffee, by isotopic dilution, 1369. nephelometric, 3116. identification, 3587, 3875. Calamine, analysis of, polarographic, 48. Calcein, preparation and properties of, 771. Calciferol. (See Cholecalciferol; Ergocalciferol.)
Calcium. (See also Alkaline-earth metals.) determination, 42, 384, 1789, 3275, 3631, 3632, 3633. flame photometric, 24, 385. effect of Al on, 2538. flame spectrophotometric, 3277. in beer, hops and malt, 988. in biological fluids, analysis of errors in, 606. flame spectrophotometric, reduction of interference in, 606. in Bi - U alloys, spectrographic, 3278. in carbonate, phosphate and silicate rocks, flame photometric, 2539. in cellulose, flame photometric, 871. in cement, by ion exchange, 43. in clay, spectrographic, 1460. in dolomite, 41, 2127. in dust, 2515. in fuel ash, 3006. in glass, B.S.I. method for, 1238. in graphite, flame photometric, 2104. in iron ore, 387, 2537. in limestone, 41, 2905. in lubricating oil, 589. in magnesite, 2127. in milk, 981. and whey, 2782. in mixtures with Bi and Cd, potentiometric, in natural water, flame photometric, 1382. photometric, 3537. in photographic materials, 2540. in plant material, 1711.

in plasma, 607.

3634. of F-, 2128.

spectrophotometric, 3427.

in rubber vulcanisates, 1304.

flame photometric, 3075.

in silicates, spectrographic, 1156.

photometric, 603, 3074.

flame spectrophotometric, 724. photometric, correction of interference effects in. 1714. polarographic, 4339. in titanium, spectrophotometric, 3297. in urine, 3076, 3820. flame photometric, 933, 3073. of Li in, spectrographic, 2103. polarographic, 1128. spectrophotometric, 386, 3276. radioactive, determination, in industrial wastes, 3543 reactions of, with azo compounds, 1790. separation, chromatographic, 4009. from Ba, Mg and Sr, paper chromatographic, from its neutron irradiation products, by ion exchange, 1127. from K and Na, in bone, by ion exchange, 604. from Sr, 1461. radiochemical, 2542 and identification, 798. Calcium arsenate, determination of As in, by ion exchange, 1171. Calcium carbide, determination of oxide content of, 3305 Calcium ethylenediaminetetra-acetate, determination, 793. Calcium hydrosilicate, identification, in concrete, 2130. in lime sand, 3291. Calcium hydroxide, determination of Li in, spectrographic, 45. Calcium oxide, analysis of, 2904. determination, in lime and silicate products, 2131. in slag, 32. preparation of high-purity, for spectrographic standards, 3243. Calcium phosphate, limit test for F- in, 838. Calcium salts, determination of K and Na in, flamephotometric, 44. medicinal, separation and identification, paper chromatographic, 4304. Calcium superphosphate, determination of phosphate in, 3681. Calcon. (See Eriochrome blue black R.) Calorimeter, automatic adiabatic low-temp., 747. for determination of purity, 748. modified Parr-bomb, 1742. Camphor, deriv. of, determination, polarographic, 3125. determination, 4206. in Ho-leaf oil, i.r. spectrophotometric, 914. spirit of, assay of, nephelometric, 1356. Cananga oil, B.S.I. specification for, 3414. Cane sugar. (See Sucrose; Sugar, refined.) in potassium chloride, polarographic, 792. in presence of Ba and Sr, flame photometric, Cantharidin, determination, paper chromatographic, Caprolactam, detection, in polymers, 170. of Mg, thermogravimetric, 3630. of PO₄³⁻, 40. ε-, determination, in polymers, 917. Capsaicin, determination, 1337, 3165. of Na, flame photometric, 2129. in capsicum, chromatographic, 3164. in ointments, 3147. in serum, 602, 605, 1591, 2312, 3819, 3820. Capsicum, determination of capsaicin in, chromatographic, 3164. Captan, determination of deposits of, 728. spectrophotometric, 1590, 1592, 3427.

Captax, determination of mercaptobenzothiazole in,

1585

Calcium, determination-continued

in soil, 725.

in sodium chloride, polarographic, 792.

flame photometric, elimination of anion

in sodium sulphate minerals, 2132.

interference in, 1391.

Caraway oil, determination of carvone in, potentiometric, 220.

Carbamoyltaurine, identification, in urine, by ion exchange, 655.

Carbides, analysis of, in steel, 1862.

determination of oxide content of, 3305.

(See also Sugars and individual Carbohydrates. compounds.)

determination of periodate consumed during oxidation of, spectrophotometric, 862. identification, i.r. spectrophotometric, 1549.

separation, paper chromatographic, 1009.

and determination, paper chromatographic, 3086.

Carbomycin, identification, 1338.

Carbon, analysis of 14C-labelled organic compounds, gas chromatographic, 3373.

spectrographic, 409. detection, in organic compounds, 1241.

determination, 1153.

conductimetric, 1242.

in biological material, 176, 177.

in iron, by proton irradiation, 2637. mass spectrometric, 523.

in iron alloys, 3678.

in metals, conductimetric, 2148.

in organic compounds, 2224, 3008, 3009, 3359, 3764.

containing alkali and alkaline-earth metals, 1536.

simultaneously with F and H, 1542. with H and an alkali metal, 1537.

and N, 1244. statistical evaluation of, 850.

in organoboron compounds, 1538.

in organofluorine compounds, 1243, 2661.

in organosilicon compounds containing S, 546.

in sodium, 3606.

in stainless steel, electrolytic, 2638.

in steel, 107, 2993, 3678. conductimetric, 4121. mass spectrometric, 523. spectrographic, 1435.

in sulphur, conductimetric, 81. in titanium, 442, 1800, 2942, 3678. simultaneously with H, 2943.

in titanium alloys, 442, 2942. simultaneously with H, 2943.

in zirconium, 1800. of 14C, 2563.

by scintillation counting, continuous, 2149. in organic compounds, 1873. in reactor coolant gas, 3290.

for spectrochemical use, analysis of, spectrographic, 1435.

from household fuel, determination, in town refuse, 4328.

isotope analysis of, mass spectrometric, 3583. Carbon black, determination of As and Cu in, 3619.

of particle size, by reflectivity, 3.

Carbon dioxide, analysis of, mass spectrometric, correction factors for, 424.

determination, gas chromatographic, 4057. gasometric, automatic pipette for, 3939.

in air, nitrogen and oxygen, 553. in blood, i.r. spectrophotometric, 616. in boiler water, 2005.

in coal, coke and oil-shale, comparison of methods for, 3411.

in expired air, sonic gas analyser for, 2830. in liquid oxygen, 554.

in minerals, 2101.

Carbon dioxide, determination-continued

in petrol engine exhaust gases, photometric, 4032.

of 14CO2 in expired air, 3423. in a Geiger - Muller counter, 59.

of CS2 in, gas chromatographic, 3660. review, 799.

Carbon disulphide, determination, in benzene, spectrophotometric, 2260.

in carbon dioxide and inert gases, gas chromatographic, 3660.

in mixtures with COS and H2S, 4075.

turbidimetric, 3032.

Carbon monoxide, determination, in blood, spectrophotometric, 3435.

in commercial standard gases, i.r. spectrophotometric, 2150.

in mixtures with C, to C, hydrocarbons, chromatographic, 2670.

polarographic, 58. separation, gas chromatographic, 778.

and determination, gas chromatographic, 4057.

Carbon tetrachloride, determination of CHCl, in, spectrophotometric, 122. of H2O in, 563.

revised B.S.I. standard for, 1880.

Carbonate, determination, in presence of U and V, by ion exchange, 60.

Carbonates, alkaline-earth, determination of NO,in, u.v. spectrophotometric, 1491. Carbonyl compounds, determination, in plant

material, photometric, 1712. regeneration of, from 2:4-dinitrophenylhydrazones, 872.

study of u.v. spectra of, 128.

Carbonyl groups, determination, 856. potentiometric, 3771.

spectrophotometric, 3367. Carbonyl sulphide, determination, in mixtures with

CS2 and H2S, 4075. (2-Carboxy-4-chlorphenylazo)-2-naphthol-3:6disulphonic acid, use of, in detection of Ca, 1790.

Carboxyhaemoglobin, determination, in blood, spec-trophotometric, 627.

o-Carboxy-o'-hydroxyazo compounds, reaction with Ca, 1790.

Carboxylic acids. (See also Fatty acids.) amides of, determination, 1262, 2253.

anhydrides of, determination, potentiometric, 2242.

aromatic, mono- and di-, separation, paper chromatographic, 2692. determination, in presence of phenols, 570.

halides of, determination, potentiometric, 2242. identification, 559, 1552.

isomeric, determination, polarographic, 562. separation, chromatographic, 558, 4171, 4181.

4-Carboxymethylamino-4'-aminodiphenyl sulphone,

determination, potentiometric, 3888.

Carboxymethylcellulose, sodium salt of, identification, 2299.

1-o-Carboxyphenylazo-2-naphthol-3:6-disulphonic acid, use of, as indicator, 384.

Carbromal, determination, polarographic, 233. Carbutamide, determination, in blood, spectrophoto-

metric, 3084, 3085. Cardiazol. (See Leptazol.)

Carminic acid, use of, as indicator, 1484.

β-Carotene, determination, in grapefruit, spectrophotometric, 3188.

Carotenoids, determination, in fat, serum and tissue, spectrophotometric, 1616. separation, chromatographic, 4337.

Carvone, determination, in caraway oil, potentiometric, 220.

in volatile oils, spectrophotometric, 2712, 3416. Casein, α-, β- and γ-, separation and determination, electrophoretic, 3899.

determination, in presence of other proteins, 1642. identification, 2299.

Cast iron. (See Iron.)

Catalysts, coked, determination of C and H in, 1574.

determination of Ni in, 4136.

iron, determination of FeO and Fe₂O₃ in, 3743. oxide, determination of water in, mass spectrometric, 3994.

reforming, determination of As in, by neutron activation analysis, 2283.

Catechol, use of, in photometric analysis, review, 3981.

Catechol violet, study of complexes with ter- and quadri-valent metals, 783. use of, in analysis, 3716, 3969.

Catecholamines, determination, in urine, spectro-fluorimetric, 2319.

Catechol-3:5-disulphonic acid, disodium salt. Tiron.)

Cathodes. (See Electrodes.)

Cation exchange. (See Ion exchange.)

Cations, separation, paper chromatographic, 2095. calculation of R_F values of, 2086.

Cattle food. (See Feeding-stuffs.) Caustic soda. (See Sodium hydroxide.)

Celery seed oil, B.S.I. specification for, 3414. Cellulose, degraded, determination of oxime-forming

function of, 3055.

determination, in wood, 720. of Fe in. 166.

regenerated, determination of carboxyl content of, polarographic, 1550.

Cellulose acetate, analysis of, B.S.I. methods for, 1294.

Cellulose esters, determination, in paint, spectrophotometric, 926.

Cellulose ethers, determination, in paint, spectro-photometric, 926.

Cellulose nitrate, determination of sulphate acid ester in, 167, 3810.
Cement, Portland, analysis of, 3007.

spectrophotometric, 4152.

determination, in soil - cement, 2659. of Al in, 2137.

of Ca in, by ion exchange, 43.

Cephaëline, detection, in emetine hydrochloride, 680. Ceramics, analysis of, comparison of methods for, 2929.

Cereal products, determination of crude fibre in, comparison of methods for, 2388.

Cereals, determination of a-amylase activity of, viscometric, 1986.

of DDT in, 1985.

of Fe in, spectrophotometric, 3513. ground, identification of starch in, 977.

Cerebrosides, separation from acetyl phosphatides and gangliosides, paper chromatographic, 2334. Cerebrospinal fluid, determination of chlorpromazine

in, spectrophotometric, 3826. of glucose in, spectrophotometric, 3087.

of isoniazid in, spectrophotometric, 1598. of O in, polarographic, 3426.

of phenylalanine in, 3845. paper chromatographic, 3461. of phenylpyruvate in, 3845.

of protein in, comparison of methods for, 1641. of tetracycline and deriv. in, biological, 3082.

Cerimetric titrations. (See Volumetric analysis.)

Cerium, detection, 2135.

determination, 2143, 2586, 2923, 3287. amperometric, 1176.

chemical - spectrographic, 420.

coulometric, 4007.

in bismuth alloys, photometric, 422. in pharm. prep., 1981.

in plutonium, spectrophotometric, 421.

in whisky, spectrophotometric, 990. of 144Ce in rain water, 2013.

potentiometric, 1472, 1473. u.v. spectrophotometric, 797.

preparation of radiochemically pure, 1151. separation, 2922.

from U, 831. of carrier-free 144Ce, 1474.

and identification, 798.

Cerium alloys, analysis of Ce - Zr, 1485. Cermets. (See Alloys.)

Cetylpyridinium chloride, identification and determination, u.v. spectrophotometric, 4189. Cetyltrimethylammonium toluene-p-sulphonate, de-

termination, u.v. spectrophotometric, 3510. Chalcopyrites, determination of Ni in, spectrographic,

4135. Chalk, determination of Mn in, photometric, 4113.

Cheese, determination of 140 Ba and 90 Sr in, radiochemical, 3433. of Cu in, 1694.

sheep's milk, detection and determination of cow's milk cheese in, 982.

Chemical oxygen demand. (See C.O.D.)

Chemiluminescence, analytical applications of, 1758. Chenopodium oil, determination of ascaridole in, 687.

calculation of results, 962.

Cherries, determination of OO-dimethyl S-methylcarbamylmethyl phosphorodithioate residues on, 3191.

China clay. (See Kaolin.) Chitosamine. (See Glucosamine.)

Chloral hydrate, determination, 1882. in body fluids, 183.

Chloralhydrazine, determination, 2245.

Chloramine T, detection, in presence of alkali hypochlorite, 3387.

use of, as volumetric reagent, review, 3971. in organic analysis, 3762.

of, determination, Chloramphenicol, cinnamate spectrophotometric, 4282. determination, 2370.

in Chloromycetin ("otic"), u.v. spectrophotometric, 4283.

separation and determination, spectrophotometric, 3121.

Chlorate, determination, in presence of perchlorate, 2203.

of oxidising power of, 839. separation, by ion exchange, 3728.

Chlorbenside, determination of deposits of, 728. spectrophotometric, 291.

u.v. spectrophotometric, 2430. Chlorbenside sulphoxide, determination, u.v. spectro-

photometric, 2430. Chlorbutol, determination, amperometric, 3129.

spectrophotometric, 2231. Chlorcyclizine, determination, in mixtures with pramoxine, i.r. spectrophotometric, 3817.

Chlordane, y-, X-ray powder diffraction patterns of, 970.

Chloride. (See also Halides.) detection, 2626.

determination, 504, 2161, 4109. amperometric, 1848.

Chloride, determination-continued

by ion exchange, 1849.

in biological materials, potentiometric, 1596. in presence of Br- and I-, 509.

in serum, electrometric, 3821.

and sweat, spectrophotometric, 4228. in thorium oxide and triuranium octoxide, spectrographic, 835.

in water, 2202.

potentiometric, 2415.

spectrophotometric, 4329. spectrophotometric, 505, 2201.

turbidimetric, 1207.

u.v. spectrophotometric, 2185.

separation from Br-, electrophoretic, 2514. and I-, chromatographic, 508.

titration of, indicator for, 1847.

Chlorine. (See also Halogens.)

determination, in bromine, 2200. in fluorocarbon plastics, 4224.

in industrial wastes, spectrophotometric, 3186. in mixtures with H, 4108.

in organic compounds, 115, 854, 2667, 3362, 3768, 4157.

statistical evaluation of, 850. X-ray spectroscopic, 1249.

in organosilicon compounds, 4194.

in pesticides, 3934.

in plant material, 3928.

in presence of CN- and SCN-, spectrophotometric, 507.

in zinc sulphate electrolytes, 506.

separation from Br and I, chromatographic, 96. Chlorine dioxide, determination, in soln., 2984.

of oxidising power of, 839.

Chlorite, determination of oxidising power of, 839.

Chloroacetic acid, deriv. of, separation, paper chromatographic, 4182.

and determination, by ion exchange, 3781. detection, 880.

Chloroamine, determination, in natural water, 2806.

Chloroantimonic acid, paper chromatographic behaviour of, 461.

Chlorobenzene, analysis of tar obtained by pyrolysis of, chromatographic, 909.

Chlorobenzoic acid, identification, paper chromatographic, 1373.

isomers of, separation, by counter-current partition, 572.

p-chlorophenyl sulphide. p-Chlorobenzyl (See Chlorbenside.)

p-Chlorobenzyl p-chlorophenyl sulphoxide.

Chlorbenside sulphoxide.) (See

Chlorobutanol. (See Chlorbutol.)

Chlorodinitrobenzene, isomers of, determination, i.r. spectrophotometric, 3053.

1-Chloro-2:4-dinitrobenzene, determination, in presence of m-dinitrobenzene, polarographic, 142.

Chloroethylenes, detection and determination, in air, 3176.

1-Chloro-3-ethylpent-4-yn-3-ol, determination of 1-chloropent-1-en-3-one in, i.r. spectrophotometric, 3817.

Chloroform, determination, in carbon tetrachloride, spectrophotometric, 122.

identification of impurities in chloroform B.P., 2760.

separation, chromatographic, 2675.

from mixtures with ethyl methyl ketone and isopropyl alcohol, gas chromatographic, 2228.

Chlorogenic acid, determination, in presence of caffeic acid, 2269. in tobacco, 2759.

5-Chloro-2:4-hydroxyacetophenone, use of, in analysis, 3256

1-Chloro-2-(1-hydroxycyclohex-1-yl)acetylene, detection, 1352

5 - Chloro - 4 - hydroxy - 3 - methoxybenzylthiuronium phosphate, use of, as standard for microchemical analysis, 1755.

Chloromycetin. (See Chloramphenicol.)

Chloromycetin ("otic"), determination of chloramphenicol in, u.v. spectrophotometric, 4283.

Chloronitrobenzene, determination of p- in o-, refractometric, 578.

isomers of, determination, i.r. spectrophotometric, 3053.

O-(3-Chloro-4-nitrophenyl) 00-dimethyl phorothioate. (See Chlorthion.

Chloropalladic acid, use of, in organic analysis, 1661. 1-Chloropent-1-en-3-one, determination, in 1-chloro-3-ethylpent-4-yn-3-ol, i.r. spectrophotometric, 3817.

of toluene in, i.r. spectrophotometric, 3817. Chlorophenols, analysis of, by ion exchange, 571.

determination, i.r. spectrophotometric, 1587. N-p-Chlorophenyl-N'N'-dimethylurea, analysis of,

review, 1015 Chlorophyll, analysis of, paper chromatographic,

1713. measurement of absorption spectra of, apparatus for, 3216.

Chloropicrin, determination, in air, 275.

Chloropropionic acids, separation, paper chromatographic, 4182.

Chlorosilanes. (See Silanes.)

Chlorpromazine, determination, 2381.

in biological fluids, spectrophotometric, 3826. in blood and urine, 1599. polarographic, 252

separation, from promazine, electrophoretic, 4294. Chlortetracycline, assay of, 4284.

in body fluids, 3082.

determination, fluorimetric, 1339.

in binary mixtures with oxytetracycline or tetracycline, spectrophotometric, 4289. in feeding-stuffs and preservatives, spectro-

photometric, 1013. in ointments, 3501.

paper chromatographic, 231.

Chlorthion, separation and identification, paper chromatographic, 1014.

Chocolate, analysis of fats in, 264.

Cholecalciferol, determination, 998. separation, from fish oil, paper chromatographic,

Cholesterol, detection, paper chromatographic, 667. determination, 209.

elimination of interference from Br- in, 670. in bile, spectrophotometric, 1957.

in blood, spectrophotometric, 3473.

in liver, fluorimetric, 2351.

in serum, 1650.

fluorimetric, 1649, 2351. i.r. spectrophotometric, 646.

spectrophotometric, 1648, 2747, 4262. in wool wax, review, 4225.

influence of autoxidation on, 3861. oscillopolarographic, 3099.

paper chromatographic, 668. radiochemical, 669.

spectrophotometric, 666.

separation and determination, in blood, spectrophotometric, 2748.

Cholesterol esterase, determination of activity of, 1960.

Cholesteryl esters, determination, in serum, i.r. spectrophotometric, 646. paper chromatographic, 668.

radiochemical, 669. Choline, determination, 1620.

spectrophotometric, 1311, 2768. u.v. spectrophotometric, 1619. identification, 3587.

Cholinesterase, determination of activity of, spectrophotometric, 1657.

Chondrites, determination of U in, radiochemical,

Chromate, separation, electrochromatographic, 3712. from Ni, electrochromatographic, 1773.

Chromatography. (See also Electrochromatography.) apparatus for, automatic, 1402. column, glass strip collector for, 310.

constant-rate flow device for electrolyte eluents, 1041.

electrolytically controlled device for control of flow-rates, 3561.

fraction collector for, 2040. of variable capacity, 1035.

gradient elution, production of a continuously variable liquid mixture for, 1763.

improved splash tube for use with fraction collector, 1034.

method of filling columns for, 2039, 3946. multiple separation, apparatus for, 2822. of amino acids, apparatus for, automatic, 4359. partition, liquid - liquid, 3205.

quant. microscopic, technique for, 3958.

recording dielectrometric method of detection for, review of industrial applications of, 2867.

separation of isotopes by, review, 3203. use of chromatostrips in, 2272. review, 3197.

in analysis, review, 1082. in detection of unstable compounds, 346.

Chromatography, gas, adsorption theory for, 1765. apparatus for, 1021, 1743, 2829.

for automatic recording in, 2441. with radioactive detection, 4365.

applications in analysis of essential oils and perfumes, 913.

in petroleum industry, 2478. automatic measuring unit for, 2826.

detectors for use in, 1042, 3208. determination of hydrocarbons by, study of thermal conductivity behaviour in, 1044.

exploratory studies at high temp., 1764. factors influencing efficiency of, 3206. flame-ionisation detector for, 3949, 4364.

fraction cutter for, 2049. high-efficiency columns for, 2440.

high-temp., apparatus for, 3565.

i.r. indication in, application of thermistors to, 2827.

ionisation gauge detector for, 2828. isotope effects in, 2089.

oscillographic mass-spectrometric monitoring of,

quant., experimental precision of, 1434. reviews, 11, 2090, 3597, 3598, 3976, 3977.

selectivity of liquid substrates in organic analysis, separation of permanent gases by, 778.

technique with steadily rising temp., 1406. theory of, 1089, 1090.

thermal conductivity cell for, 1045. trace analysis of organic mixtures by, 3564. transfer cell for, 1043.

two-stage, apparatus for, 2047.

Chromatography, gas-continued

use of coulometry in, 1766.

of i.r. analyser in, 2048.

of mixed stationary liquids in, 3207. of organic-montmorillonite compounds in, 348. with programmed temp., 4363.

Chromatography, ion-exchange, review of sorbents for, 1092.

use of, in quant. analysis, review, 1091.

Chromatography, paper, analysis of cations by, 2513. apparatus for, 308, 2042, 2045.

for application of bands of material, 4362. of liquids, 1403, 1732, 3199.

automatic, 1405.

for determination of R_F values, 2038.

for equilibration of paper with solvent vapour, 1733.

ascending, apparatus for, 1734. techniques and applications of, 2823.

circular, technique for, 1036.

combined with electrophoresis, technique for, 312. conical, 2439.

apparatus for, 1038. densitometer for, 2442.

for use with irregularly shaped spots, 4360. detection of spots in, 2087.

of u.v. absorbing compounds in, contact printing frame for, 1040.

evaluation of spots, photometric, 1039. hydrophobisation with ethylchlorosilane for, 1404. in a centrifugal field, 1037.

inorganic, technique and conditions for, 351. of cations, 2095.

calculation of R_F values, 2086. of inorganic ions, 4361. of metal complexes, 2507.

of unstable substances, 2044. on silica-treated paper, 3947. polar and steric effects in, 2088.

quant., use of spectrophotometry in, 1088.

relation between Rr value and developer used in ascending and descending techniques, 3202. reservoir for, 3200.

reviews, 774, 1433. "salting-out", equations relating $R_{\rm F}$ values to atomic refraction constants, 2343.

separation of carboxylic acids and deriv. by, 3204. of hydrophobic substances, cellulose ester papers for, 2825.

of mixtures by, continuous, 2046. techniques for, 309, 311, 2043.

two-dimensional, on a rotating disc, 3201. technique for, 4358.

use of matched capacity solvents in, 2824. use of oxine in mobile phase in, 347

of Weiland reciprocal system in, 347. volatile buffer for use in, 2504.

water-curtain enclosure for spraying in, 2041. zone location by electrostatic discharge, 3198.

Chromatostrips, use of, in analysis, review, 3197. Chrome azurol S, use of, as indicator, 2586.

Chrome fast black CAT. (See Eriochrome black T.) Chrome fast cyanine B. (See Eriochrome blue black R.)

Chrome magnesites, determination of Cr2O3 in, photometric, 85.

Chromic oxide, determination, in chrome magnesites and chromium ores, 85.

Chromites, analysis of, amperometric, 3709. determination of Cr in, 479.

of FeO in, 518.

Chromium, analysis of, 3711. co-pptn. of, with MnO2, 480. Chromium-continued

detection, in presence of Ti, 3670. and determination, in wood, 2424.

determination, 478, 1835.

by luminescence, 1501.

by X-ray fluorescence, 3342.

flame spectrophotometric, 2097.

in aluminium, spectrographic, 54.

in aluminium alloys, 56.

in chromites, 479.

in chromium alloys, flame spectrophotometric, 822.

in glass, 84.

in iron alloys, spectrophotometric, 4085.

in nickel, spectrophotometric, 2609.

in presence of Co and Mn, flame photometric, 2884.

of Fe, photometric, 85.

in soil, 287.

in steel, amperometric, 1443. coulometric, automatic, 4131.

spectrographic, 2989. of Cr3+, in presence of CrO42-, 477.

spectrophotometric, 4084. of Fe in, spectrophotometric, 3742.

of Ti in, spectrophotometric, 2157. photometric, 464, 3707.

photonometric, 3316.

simultaneously with V, potentiometric, 3710. spectrophotometric, 2608, 3321, 3322.

extraction of Cr6+, 3708.

separation, electrochromatographic, 3712, 3987. from Ti, by ion exchange, 439. of Cr^{III} from Cr^{VI}, by ion exchange, 1442. standardisation of Cr²⁺ soln., 1760.

Chromium alloys, determination of Cr in, flame spectrophotometric, 822.

of Ti in Cr - Fe, spectrophotometric, 2157.

Chromium ores, determination of Cr.O. in, photo-

metric, 85. Chromotropic acid, determination, in presence of 1-naphthol-3:6:8-trisulphonic acid, 147. separation of 1-naphthol-3:6:8-trisulphonic acid

from, paper chromatographic, 3808. Chromous sulphate, standardisation of soln. of, 3320.

Chromoxan pure blue B, use of, in analysis, 1794.

Chronopotentiometric analysis. (See Volumetric analysis, chronopotentiometric.)

Chymotrypsin, determination of activity of, spectrophotometric, 3870.

Cigarette smoke. (See Tobacco.)

Cinchona, tincture of, determination of alkaloids in, 4275.

Cinchona alkaloids, determination, oscillopolarographic, 1664, 2363.

Cinchonidine, determination, oscillopolarographic,

Cinchonine, determination, amperometric, 3117. oscillopolarographic, 2363. polarographic, 221.

Cinchophen, detection, paper chromatographic, 216. determination, 218. polarographic, 219.

Cinchotoxine, determination, oscillopolarographic, 2363.

Cineole, determination, in lavender oil, i.r. spectrophotometric, 2713.

separation, paper chromatographic, 3052.

Cinnamaldehyde, detection, 1551. determination, in cinnamon, polarographic, 230. in volatile oils, spectrophotometric, 2712.

Cinnamic acid, determination, 1268. isomers of, determination, polarographic, 562. Cinnamic acid-continued

substituted, separation and identification, paper chromatographic, 1011.

Cinnamon, determination of cinnamaldehyde in, polarographic, 230.

of starch in, polarimetric, 978. Cinnamon leaf oil, B.S.I. specification for, 3414. Citraconic acid, determination, polarographic, 562. Citral, determination, in volatile oils, spectrophoto-

metric, 2712.

polarographic, 2294. spectrophotometric, 2293, 2294.

Citric acid, determination, 2240, 3762. effect of triethyl citrate on, 4313.

in milk, 3154, 3156.

identification, in plant tissues, paper chromatographic, 4334.

separation, chromatographic, 558, 4181.

and determination, paper chromatographic, 4180. and identification, in plasma, paper chromato-

graphic, 3089. paper chromatographic, 3024.

Citrus fruits, determination of diphenyl in, spectrophotometric, 263.

of flavonoids in, spectrophotometric, 699. Clams, determination of paralytic shell-fish poison

in, 3896. Clay, determination of Al in, 3646.

of Ca and Mg in, spectrographic, 1460.

of Fe in, spectrophotometric, 1520. of surface area of, 1237.

of total C content of, 1534.

Clinical analysis, system for, 3818.

Cloth. (See Textiles.)

Coal, analysis of inorganic constituents of, photometric, 1239. bituminous, analysis of oxidation products of,

polarographic, 1291. black, determination of Al, Fe and Si in, spectro-

graphic, 1573. determination of As in, spectrophotometric, 3683.

of calorific value of, revised B.S.I. method for, 1289. of CO, in, comparison of methods for, 3411.

as carbonate in, 2285.

of Ge in, 3292.

of mineral matter in, 3759.

of N in, 907, 908. of O in, 3765.

of particle size, by reflectivity, 3.

of P in, comparison of methods for, 2287. of S in, 1290, 2286, 2604.

comparison of methods for, 3804. potentiometric, 4215. sources of error in, 4216.

of total moisture in, 1288. B.S.I. method for, 1572.

reduction of samples for, 1287.

of volatile matter in, apparatus for, automatic,

proximate analysis of, B.S.I. methods for, 1289. ictoria brown, assessment of rank of, 156. total analysis of, 155.

Coal ash, determination of Ge in, spectrographic, 1803.

of Ti in, 4044.

of trace elements in, spectrographic, 590.

Coal gas, analysis of, gas chromatographic, 3408. physical methods for, review, 154.

determination of acetylene, ethane and ethylene in, gas chromatographic, 3409. of CN- in, photometric, 3805.

of naphthalene in, 2288, 2289.

Cholesteryl esters, determination, in serum, i.r. spectrophotometric, 646. paper chromatographic, 668. radiochemical, 669.

Choline, determination, 1620. spectrophotometric, 1311, 2768. u.v. spectrophotometric, 1619. identification, 3587.

Cholinesterase, determination of activity of, spectrophotometric, 1657.

Chondrites, determination of U in, radiochemical, 4094. Chromate, separation, electrochromatographic, 3712.

from Ni, electrochromatographic, 1773.

Chromatography. (See also Electrochromatography.) apparatus for, automatic, 1402. column, glass strip collector for, 310.

constant-rate flow device for electrolyte eluents,

electrolytically controlled device for control of flow-rates, 3561.

fraction collector for, 2040.

of variable capacity, 1035.

gradient elution, production of a continuously variable liquid mixture for, 1763.

improved splash tube for use with fraction collector, 1034.

method of filling columns for, 2039, 3946. multiple separation, apparatus for, 2822.

of amino acids, apparatus for, automatic, 4359. partition, liquid - liquid, 3205.

quant. microscopic, technique for, 3958. recording dielectrometric method of detection for,

review of industrial applications of, 2867. separation of isotopes by, review, 3203. use of chromatostrips in, 2272.

review, 3197.

in analysis, review, 1082.

in detection of unstable compounds, 346.

Chromatography, gas, adsorption theory for, 1765. apparatus for, 1021, 1743, 2829.

for automatic recording in, 2441 with radioactive detection, 4365.

applications in analysis of essential oils and perfumes, 913.

in petroleum industry, 2478. automatic measuring unit for, 2826. detectors for use in, 1042, 3208.

determination of hydrocarbons by, study of thermal conductivity behaviour in, 1044. exploratory studies at high temp., 1764.

factors influencing efficiency of, 3206. flame-ionisation detector for, 3949, 4364.

fraction cutter for, 2049. high-efficiency columns for, 2440.

high-temp., apparatus for, 3565. i.r. indication in, application of thermistors to, 2827.

ionisation gauge detector for, 2828. isotope effects in, 2089.

oscillographic mass-spectrometric monitoring of,

quant., experimental precision of, 1434. reviews, 11, 2090, 3597, 3598, 3976, 3977. selectivity of liquid substrates in organic analysis,

separation of permanent gases by, 778.

technique with steadily rising temp., 1406. theory of, 1089, 1090.

thermal conductivity cell for, 1045. trace analysis of organic mixtures by, 3564. transfer cell for, 1043.

two-stage, apparatus for, 2047.

Chromatography, gas-continued

use of coulometry in, 1766. of i.r. analyser in, 2048.

of mixed stationary liquids in, 3207.

of organic-montmorillonite compounds in, 348. with programmed temp., 4363.

Chromatography, ion-exchange, review of sorbents for, 1092

use of, in quant. analysis, review, 1091.

Chromatography, paper, analysis of cations by, 2513. apparatus for, 308, 2042, 2045.

for application of bands of material, 4362. of liquids, 1403, 1732, 3199.

automatic, 1405.

for determination of R_F values, 2038. for equilibration of paper with solvent vapour, 1733.

ascending, apparatus for, 1734.

techniques and applications of, 2823.

circular, technique for, 1036. combined with electrophoresis, technique for, 312. conical, 2439.

apparatus for, 1038. densitometer for, 2442

for use with irregularly shaped spots, 4360.

detection of spots in, 2087. of u.v. absorbing compounds in, contact

printing frame for, 1040. evaluation of spots, photometric, 1039. hydrophobisation with ethylchlorosilane for, 1404.

in a centrifugal field, 1037. inorganic, technique and conditions for, 351. of cations, 2095.

calculation of Rp values, 2086.

of inorganic ions, 4361. of metal complexes, 2507. of unstable substances, 2044.

on silica-treated paper, 3947. polar and steric effects in, 2088.

quant., use of spectrophotometry in, 1088. relation between Rp value and developer used in

ascending and descending techniques, 3202. reservoir for, 3200.

reviews, 774, 1433. "salting-out", equations relating $R_{\rm F}$ values to atomic refraction constants, 2343.

separation of carboxylic acids and deriv. by, 3204. of hydrophobic substances, cellulose ester papers for, 2825.

of mixtures by, continuous, 2046. techniques for, 309, 311, 2043.

two-dimensional, on a rotating disc, 3201. technique for, 4358.

use of matched capacity solvents in, 2824. use of oxine in mobile phase in, 347.

of Weiland reciprocal system in, 347. volatile buffer for use in, 2504.

water-curtain enclosure for spraying in, 2041. zone location by electrostatic discharge, 3198.

Chromatostrips, use of, in analysis, review, 3197.

Chrome azurol S, use of, as indicator, 2586. Chrome fast black CAT. (See Eriochrome black T.)

(See Eriochrome blue Chrome fast cyanine B. black R.

Chrome magnesites, determination of Cr2O3 in, photometric, 85.

Chromic oxide, determination, in chrome magnesites and chromium ores, 85.

Chromites, analysis of, amperometric, 3709.

determination of Cr in, 479. of FeO in, 518.

Chromium, analysis of, 3711. co-pptn. of, with MnO2, 480. Chromium-continued

detection, in presence of Ti, 3670. and determination, in wood, 2424.

determination, 478, 1835.

by luminescence, 1501.

by X-ray fluorescence, 3342.

flame spectrophotometric, 2097.

in aluminium, spectrographic, 54. in aluminium alloys, 56.

in chromites, 479.

in chromium alloys, flame spectrophotometric, 822.

in glass, 84.

in iron alloys, spectrophotometric, 4085.

in nickel, spectrophotometric, 2609.

in presence of Co and Mn, flame photometric, 2884.

of Fe, photometric, 85.

in soil, 287.

in steel, amperometric, 1443.

coulometric, automatic, 4131. spectrographic, 2989.

of Cr3+, in presence of CrO42-, 477.

spectrophotometric, 4084.

of Fe in, spectrophotometric, 3742. of Ti in, spectrophotometric, 2157.

photometric, 464, 3707.

photonometric, 3316.

simultaneously with V, potentiometric, 3710. spectrophotometric, 2608, 3321, 3322.

extraction of Cr6+, 3708.

separation, electrochromatographic, 3712, 3987. from Ti, by ion exchange, 439.

of Cr^{III} from Cr^{VI}, by ion exchange, 1442. standardisation of Cr²⁺ soln., 1760.

Chromium alloys, determination of Cr in, flame

spectrophotometric, 822.

of Ti in Cr - Fe, spectrophotometric, 2157. Chromium ores, determination of Cr2O3 in, photo-

metric, 85.

Chromotropic acid, determination, in presence of 1-naphthol-3:6:8-trisulphonic acid, 147. separation of 1-naphthol-3:6:8-trisulphonic acid

from, paper chromatographic, 3808. Chromous sulphate, standardisation of soln. of, 3320.

Chromoxan pure blue B, use of, in analysis, 1794.

Chronopotentiometric analysis. (See Volumetric analysis, chronopotentiometric.)

Chymotrypsin, determination of activity of, spectro-

photometric, 3870.

Cigarette smoke. (See Tobacco.)

Cinchona, tincture of, determination of alkaloids in, 4275.

Cinchona alkaloids, determination, oscillopolarographic, 1664, 2363.

Cinchonidine, determination, oscillopolarographic,

Cinchonine, determination, amperometric, 3117. oscillopolarographic, 2363.

polarographic, 221. Cinchophen, detection, paper chromatographic, 216. determination, 218. polarographic, 219.

Cinchotoxine, determination, oscillopolarographic, 2363.

Cineole, determination, in lavender oil, i.r. spectrophotometric, 2713.

separation, paper chromatographic, 3052.

Cinnamaldehyde, detection, 1551.

determination, in cinnamon, polarographic, 230. in volatile oils, spectrophotometric, 2712.

Cinnamic acid, determination, 1268.

isomers of, determination, polarographic, 562.

Cinnamic acid-continued

substituted, separation and identification, paper chromatographic, 1011.

Cinnamon, determination of cinnamaldehyde in, polarographic, 230.

of starch in, polarimetric, 978.

Cinnamon leaf oil, B.S.I. specification for, 3414.

Citraconic acid, determination, polarographic, 562. Citral, determination, in volatile oils, spectrophotometric, 2712.

polarographic, 2294.

spectrophotometric, 2293, 2294.

Citric acid, determination, 2240, 3762.

effect of triethyl citrate on, 4313.

in milk, 3154, 3156.

identification, in plant tissues, paper chromatographic, 4334.

separation, chromatographic, 558, 4181.

and determination, paper chromatographic,

and identification, in plasma, paper chromatographic, 3089.

paper chromatographic, 3024.

Citrus fruits, determination of diphenyl in, spectrophotometric, 263.

of flavonoids in, spectrophotometric, 699. Clams, determination of paralytic shell-fish poison in, 3896.

Clay, determination of Al in, 3646.

of Ca and Mg in, spectrographic, 1460.

of Fe in, spectrophotometric, 1520. of surface area of, 1237.

of total C content of, 1534.

Clinical analysis, system for, 3818.

Cloth. (See Textiles.)

Coal, analysis of inorganic constituents of, photometric, 1239.

bituminous, analysis of oxidation products of, polarographic, 1291. black, determination of Al, Fe and Si in, spectro-

graphic, 1573.

determination of As in, spectrophotometric, 3683. of calorific value of, revised B.S.I. method for,

of CO2 in, comparison of methods for, 3411. as carbonate in, 2285.

of Ge in, 3292.

of mineral matter in, 3759.

of N in, 907, 908.

of O in, 3765.

of particle size, by reflectivity, 3.

of P in, comparison of methods for, 2287.

of S in, 1290, 2286, 2604.

comparison of methods for, 3804. potentiometric, 4215.

sources of error in, 4216.

of total moisture in, 1288. B.S.I. method for, 1572.

reduction of samples for, 1287.

of volatile matter in, apparatus for, automatic,

proximate analysis of, B.S.I. methods for, 1289. Victoria brown, assessment of rank of, 156.

total analysis of, 155. Coal ash, determination of Ge in, spectrographic,

1803. of Ti in, 4044.

of trace elements in, spectrographic, 590.

Coal gas, analysis of, gas chromatographic, 3408.

physical methods for, review, 154. determination of acetylene, ethane and ethylene in, gas chromatographic, 3409.

of CN- in, photometric, 3805.

of naphthalene in, 2288, 2289.

Coal tar, determination of ash in, 157.

of C and H in, 910.

of pyridine and quinoline bases in, u.v. spectrophotometric, 3410.

fractions of, determination of indole in, spectrophotometric, 588.

higher phenolic, analysis of, amperometric, 3801.

xylidine, separation and determination of tert. amines in, i.r. spectrophotometric, 575.

Cobalamins. (See Vitamin B12.)

Cobalt, analysis of binary mixtures with Ba, Mg or Sr, potentiometric, 3257.

analytical chemistry of, use of 60Co in study of, 2216. concentration of traces of, by co-pptn., 2510.

detection, 526, 1228, 1527. in minerals, chromatographic, 1775.

and determination, in presence of Ni, paper chromatographic, 3348.

determination, 528, 530, 3751. amperometric, 1443, 3346, 3752. by co-pptn., with Al(OH)3, 3754.

in cobalt naphthenate, spectrophotometric,

in copper and cobalt concentrates, spectrographic, 2524.

in fuel ash, 3006.

in iron, y-spectrometric, 3347.

in iron alloys, chromatographic, 111.

in magnet alloys, amperometric, 3753. in nickel, potentiometric, 2999.

spectrographic, 2999. in ores, polarographic, 2647.

in presence of Cr and Mn, flame photometric, 2884.

of Cu, 2546. of Ni, 1866.

of PO₄3-, 72. in rocks, spectrophotometric, 4341.

in salt mixtures for feeding-stuffs, spectrophotometric, 290.

in soil, 1717.

spectrophotometric, 4341.

in steel, 1867 polarographic, 2647.

of 60Co, spectrometric, 1864. of Cu in, photometric, 3616.

of impurities in, by ion exchange, 782.

paper chromatographic, 780. photometric, 1229, 2649, 4134.

radiochemical, 1109. spectrographic, 746.

spectrophotometric, 527, 2648, 4132, 4133.

separation from Cu, Ni and Zn, paper chromatographic, 3002.

from Ni, 1429.

by ion exchange, 845.

from Zn, 3279.

study of amperometric titration curve with Na,P,O10, 529.

Cobalt naphthenate, determination of Co in, spectrophotometric, 1865.

Codeine, detection, paper chromatographic, 216.

determination, 3492.

amperometric, 1671.

in opium, spectrophotometric, 1666. paper chromatographic, 1962.

photographic, 1961.

polarographic, 221. potentiometric, 3876.

separation, paper chromatographic, 1328.

Cod-liver oil, determination of vitamin A in, review,

Coffee, detection of adulterant in, 3158. determination of caffeine in, 984. by isotopic dilution, 1369.

Coke, determination of As in, spectrophotometric, 3683.

of calorific value of, revised B.S.I. method for,

of CO2 in, comparison of methods for, 3411. of moisture in, revised B.S.I. method for, 1289.

of N in, 3802, 3803. of P in, comparison of methods for, 2287.

of S in, 1290. of volatile matter in, apparatus for, automatic,

proximate analysis of, B.S.I. methods for, 1289.

Coke-oven gas. (See Gas.)

Colchicine, detection, spectrophotometric, 3109. Collagen, determination, spectrophotometric, 1309. Collagenase, determination of activity of, 1660. Collectors. (See Co-precipitation.)

Collidine, 2:4:6-, determination, i.r. spectrophotometric, 2276.

identification, chromatographic, 148. separation, paper chromatographic, 582.

Colorimeter, for micro-determinations, recording, 2454.

Colorimetry. (See also Absorptiometry.) consideration of blank value in, 1437.

review, 775.

sources of error and their evaluation in, 3979. use of ring oven in, mathematics of, 776.

Colouring matters. (See Dyes.)

Columbite, determination of Mo and Re in, spect.ophotometric, 4088.

Columbium. (See Niobium.)

Combustion, apparatus for. (See Organic compounds, determination of elements in.)
Complexing agents. (See individual compounds.)

Complexometric titrations. (See Volumetric analysis, complexometric.

Complexone III. (See Ethylenediaminetetra-acetic

Complexones, use of, in analysis, reviews, 1426, 3967. Concrete, determination of water in, apparatus for,

hardened, determination of original water content of, 2222.

identification of calcium hydrosilicate in, 2130. Conductimetric titrations. (See Volumetric analysis

conductimetric.) Conductivity, electrical, eddy current, analytical

uses of, 1500. Conteben. (See Thiacetazone.)

Copolymers, analysis of, i.r. spectrophotometric, 1933.

determination of vinyl acetate in, spectrophotometric, 3060.

Copper. (See also Cuprous salts.)

analysis of binary mixtures with Ba, Mg or Sr, potentiometric, 3257.

cathodes, determination of free H2SO4 and combined SO₄²- on surfaces of, 2528. composition of chelates with sodium 2-hydroxy-

m-toluate, 4002.

concentration of traces of, by co-pptn., 2510. co-pptn. of, in presence of 8-hydroxyquinoline, 1454.

detection, 1442, 2114, 3613.

paper chromatographic, 2176. and determination, 3615.

in minerals, chromatographic, 1775.

determination, 367, 369, 373, 1442, 1444, 2116, 2511, 2882, 2889, 2998, 3589, 3617, 3998, 3999, 4001.

Copper, determination-continued amperometric, 370, 1443. anomalous results from use of porcelain crucibles, 4354. coulometric, 2891. in alloys and metals, spectrophotometric, 4000. in aluminium, photometric, 1452. in aluminium alloys, 56. spectrographic, 1797. in biological fluids, paper chromatographic, 3614. in blood, urine and tissue, spectrophotometric, 1943. in brass and bronze, amperometric, 2527. in carbon black, 3619. in cheese, 1694. in copper and cobalt concentrates, spectro-graphic, 2524. in fuel ash, 3006. in gelatin, photometric, 3050. in glass, 31.

in indium, polarographic, 57.

in iron, polarographic, 3270. influence of As on, 3748. in lead, 437.

in minerals, polarographic, 3270. in nickel, 788.

in nickel alloys, 2526. in ores and concentrates, 3269.

in pectin, polarographic, 3150. in plants, flame photometric, 2811. in presence of Bi and Pb, polarographic, 2595. of citrate, 368.

of Fe3+, polarographic, 3622. of Mn, 2523. of protein, spectrophotometric, 2357.

of Zn. 374. spectrophotometric, 4015.

in pyrites and marcasite, polarographic, 1160. in rat liver, spectrographic, 182.

in sea salt, spectrophotometric, 789. in sea water, 3920.

in serum, spectrophotometric, 3428. in silicon, y-spectrometric, 800. in soil, polarographic, 1717. in steel, influence of As on, 3748.

spectrographic, 2989. in tin, spectrophotometric, 3621. in uranyl sulphate soln., 372.

in zinc, photometric, 1452. in zinc alloys, by ion exchange, 1796. spectrographic, 47.

in Zircaloy, spectrophotometric, 3262. of Sb in, photometric, 1817.

polarographic, 108. of Cu2+, 1453.

of Cu+, in presence of Cu2+, H+ and NH4+, 1783.

of impurities in, by ion exchange, 782. of Fe in, 790.

photometric, 1124. spectrophotometric, 517. of Pb in, polarographic, 790. of Li in, spectrographic, 1448.

of Ni in, 790. of Sn in, polarographic, 108.

paper chromatographic, 780. photometric, 2115, 2117, 2522, 3616, 3620, 4134.

polarographic, 30, 33. potentiometric, 371. radiochemical, 2530.

simultaneously with Hg, 1122.

spectrophotometric, 767, 787, 2118, 2525, 2550, 2890, 3259.

Copper, determination-continued u.v. spectrophotometric, 2119.

identification, 365. polarographic behaviour of, 2142.

in fused borax, 4003.

reaction with dimethylglyoxime, in presence of oxidising agents, 1442

separation, by ion exchange, 2096. electrochromatographic, 3987. electrophoretic, 2551.

from Sb and Sn, by ion exchange, 2120. from Cd, 1429.

from Co, Ni and Zn, paper chromatographic, 3002.

from group 3 elements, 366.

from Ir, Pd, Pt and Rh, by ion exchange, 2656. from Ni, by ion exchange, 1123. electrochromatographic, 1773.

Copper alloys, analysis of, 3268.

comparison of methods for, 3618. spectrographic, 375, 2121.

determination of Al in, 406. photometric, 408.

of Sb in, 4069. photometric, 3690.

of Fe in, spectrophotometric, 517.

of Pb in, electrolytic, 2153. of Mn in, polarographic, 1516.

of Ni in, spectrophotometric, 2654.

Copper oxidases, determination of Cu in, spectro-photometric, 2357.

Copper oxide, determination of O in, 471.

Copper sulphate, determination of Cu+ in, polarographic, 1121.

Copra, fumigated, determination of ethylene oxide in, 2030

Co-precipitation, application of radioactive isotopes to, 1768.

concentration of traces of metals by, 2510. Coriander oil, determination of linalol in, 169.

Corticosteroids, determination, fluorimetric, 3484. in blood and urine, 1959.

in body fluids, 3869.

in plasma, paper chromatographic, 674. fluorescence and absorption spectra of, 3482. 17-hydroxy-, determination, in urine, 3479. spectrophotometric, 4268.

 Δ^4 -3-oxo-, determination, in plasma, 673. separation, from biological materials, 3868. and determination, in plasma, 3483.

Corticosterone, determination, 3481. fluorimetric, 3484.

in plasma, paper chromatographic, 3100. separation, from biological materials, 3868.

Cortisol, determination, 3481. fluorimetric, 3484.

in plasma, paper chromatographic, 3100. in urine, spectrophotometric, 4268.

spectrophotometric, 1323.

separation, from biological materials, 3868. Cortisone, determination, fluorimetric, 3484.

in urine, spectrophotometric, 4268. spectrophotometric, 1323.

Cosmetics, determination of water in, 1928.

Cotarnine, determination, polarographic, 221.

Cotton, analysis of mixtures with viscose, 3059. of soln. used in partial acetylation of, 1927. determination, in textiles, 3057.

Cottonseed meal, determination of gossypol in, spectrophotometric, 2425. Coulometric titrations. (See Volumetric analysis,

coulometric.)

Coumarin, determination, 1558.

separation, paper chromatographic, 3052. and identification, paper chromatographic,

Countercurrent extraction, apparatus for, 1730. automatic, 4356.

Craig distribution. (See Countercurrent extraction.) Creatine, determination, 4259.

in biological fluids, spectrophotometric, 1608. Creatine phosphate, determination, 1949, 4259.

Creatine paospate, determination, 1949, 4259.
Creatinine, recovery of, from plasma, 187.
Cresols, determination, coulometric, 1265.
of neutral oils and pyridine bases in, 912.

of phenol coeff. of, in germicides, polarographic, 4301.

p-Cresotic acid. (See 6-Hydroxy-m-toluic acid.) Crops. (See Plants.)

Crotonic acid, determination, polarographic, 562. potentiometric, 1678.

Crucibles, porcelain, use of, in determination of Cu, anomalous results with, 4354.

Crude fibre. (See Fibre, crude.)
Cryolite, determination of F- in, 837.
by ion exchange, 1204.
of Si in, photometric, 1155.

Cryoscopy. (See also Freezing-point.) calculation of data, 754.

determination of purity by, 752, 755. apparatus for, 753.

Cubeb oil, B.S.I. specification for, 3414.

Cumene, determination, in α -methylstyrene, i.r. spectrophotometric, 3069.

Cuplerron, polarographic behaviour of, in presence of U, 824.

Cuprous chloride, determination, potentiometric, 1085.

Curcumin, determination, polarographic, 2714. Cyanide, detection, 2927.

determination, 1827, 3661. by ion exchange, 1849. coulometric, 1802.

in biological material, spectrophotometric, 2314.

in bitter almond water, 256. in coal gas, photometric, 3805.

in electroplating soln., polarographic, 1464, 1465.

in industrial wastes, 3186. spectrophotometric, 3541.

in presence of Cl- and SCN-, spectrophotometric, 507.

polarographic, 2982. spectrophotometric, 2565.

Cyanocobalamin. (See also Vitamin B₁₂) determination of binding activity of, 192. spectrophotometric, 3124, 3146.

Cyclamen aldehyde, determination, polarographic, 2714.

Cyclethrin, determination, spectrophotometric, 2432. Cyclobarbitone, determination, 688.

Cycloparaffins, separation from paraffins, chromatographic, 898.

Cycloserine, determination, 3890. spectrophotometric, 3508.

Cylindrite, determination of In in, 412. Cysteamine. (See β -Aminoethanethiol.)

Cysteic acid, determination, by ion exchange, 3094. in keratin, electrophoretic, 4258.

Cysteine, detection, electrophoretic, 1632. determination, amperometric, 4257. in protein, spectrophotometric, 2742. potentiometric, 208. Cysteine, determination—continued
N-acetyl ester of, determination, potentiometric,

208.
N-formyl ester of, determination, potentiometric,

208.

Cystine, determination, in protein, spectrophotometric, 2742.

Cytosine, determination, electrophoretic, 1617.

D

DDT, analysis of, review, 1015. determination, in cereals, 1985. of deposits of, 728.

of deposits of, 728. separation and identification, paper chromatographic, 1014.

DNC. (See 2-Methyl-4: 6-dinitrophenol.)

DPB. [See p-(p-Dimethylaminophenylazo)benzenearsonic acid.]

DPN. (See Pyridine nucleotides.)

Dairy products. (See also Butter; Cheese; Milk.) analysis of, review, 3516. determination of ¹⁴⁰Ba and ⁹⁰Sr in, radiochemical, ²⁴²³

Dalapon. (See 2: 2-Dichloropropionic acid.)

Dalzin. [See Di(allylthiocarbamyl)hydrazine.] Dapsone, determination, potentiometric, 3888.

Decaborane, determination, 3033.

Decylaldehyde, determination, nephelometric, 2236.
 Dehydroepiandrosterone, determination, in presence of epiandrosterone, 671.

Dehydroascorbic acid, determination, in presence of sodium hydrogen sulphite, 709. paper chromatographic, 1703.

Delnay, determination, 4350. of residues of, on citrus fruits, 4351.

Demerol. (See Pethidine.)

Demeton, isomers of, analysis of mixtures of, 3555. Density, determination, of liquids and solids, balance for, 733.

Dental enamel. (See Tooth enamel.)
Deoxycorticosterone. (See Deoxycortone.)

Deoxycortone, determination, fluorimetric, 3484. separation, from biological materials, 3868. Deoxyephedrine. (See Methylamphetamine.)

Deoxyribonucleic acid, determination of purines and pyrimidines in, electrophoretic, 1617.

refractometric, 206. hydrolysates of, separation, paper chromato-

graphic, 644.

Deoxyribonucleosides, rotary dispersion values of,

Deoxyribonucleotides, determination of monoesterified phosphate in, 2333.

Desiccator, variable-temp., 2052.

Detergents. (See also Sulphated alcohols; Surfaceactive agents.)

determination of Triton X-100, u.v. spectrophotometric, 168. non-ionic, determination, in soap, 3412.

synthetic, determination, in industrial wastes, 2419.

Deuterium, determination, effusiometric, 3993. in water, by exchange equilibrium, 1777. by zinc decomposition, 1777.

Deuterium oxide, determination, in water, 353. by freezing-point, 354.

spectrographic, 355.
i.r. spectra of H₂O - D₂O mixtures, 1435.

Dexamphetamine, identification, paper chromatographic, 1682.

Dextran, determination of mean molecular wt. of,

structural analysis of, 1685.

Dextrin, identification, 2299. Dextrose. (See Glucose.)

Diabase, analysis of, by ion exchange, 1871.

standard W-1, analysis of, spectrographic, 2223. Diacetyl, determination, in raw spirits, spectrophotometric, 2399.

4:4:-Diacetylaminodiphenyl sulphone, determination, potentiometric, 3888.

Diacetyldiphenyloxindole, determination, photometric, 1672.

Diacetylmorphine. (See Diamorphine.)

Diacetyltoluene-3:4-dithiol. (See Toluene-3:4-diacetyldithiol.

5:5'-Diacridyl dimethonitrate, use of, as chemiluminescent indicator, 1758, 3245.

Di(allylthiocarbamyl) hydrazine, use of, in analysis, 539, 4147. Dialysis, apparatus and technique for analytical

use, 4357.

Diaminoanthrarufin, use of, in analysis, 796. 3:3'-Diaminobenzidine. (See 3:4:3':4'-Tetra-

aminodiphenyl.) Diaminochrysazin, use of, in analysis, 796.

Diaminoethanetetra-acetic acid. (See Ethylenediaminetetra-acetic acid.)

1:2-Di-(2-aminoethoxy) ethane-NN'-tetra-acetic acid, use of, in analysis, 3076.

Diamorphine, determination, 4288.

separation, paper chromatographic, 1328. o-Dianisidine molybdate, use of, in analysis, 808.

Dianthronyl, analysis of, polarographic, 892.

Diastase. (See Amylase.)

Diazinon, separation and identification, paper chromatographic, 1014. synthesis and chromatographic separation of,

2820. 3:4-9:10-[a,e]-Dibenzopyrene, detection, spectrofluorimetric, 3399.

separation from 3:4-benzopyrene, chromatographic, 3399.

Dibenzylamine, determination, 3785.

NN'-Dibenzylethylenediamine. (See Benzathine.) 2:6-Dibromo-p-benzoquinone-4-chlorimine, use of, in analysis, 2027.

4:4'-Dibromodiphenyl, determination, in mixtures with 4-bromodiphenyl, i.r. spectrophotometric,

Dibromoethane, determination, in petrol, 3047.

2:3-Dibromopropionic acid, separation, paper chromatographic, 4183.

Dibutyl Carbitol. (See Dibutyl digol.)

Dibutyl digol, fission-product partition data for, 3263. Di-n-butyl ether, separation from mixtures with n-butanol, n-butyl acetate and water, gas chromatographic, 2228.

Di-n-butyl phthalate, determination, in propellants, polarographic, 2308.

revised B.S.I. standard for, 1897. Di-n-butylamine, determination, spectrophotometric, 564.

3:3'-Di-(N-carboxymethylaminomethyl)thymolsulphonephthalein. (See Glycinethymol blue.)

Dichloroacetaldehyde, determination, 3380. o-Dichlorobenzene, B.S.I. standard for, 1903. 1:2-Di-(p-chlorobenzylamino)ethane, use of, in

organic analysis, 1889. Dichlorodifluoromethane, determination, in aerosols,

gas chromatographic, review, 153.

oil-contaminated, determination of water in, i.r. spectrophotometric, 3376.

4:4'-Dichlorodiphenyltrichloroethane. (See DDT.) Dichloroethane, determination, in petrol, 3047.

Di-(2-chloroethyl) amines, determination, spectro-

photometric, 2248.

Dichloroethylene, isomers of, determination, in mixtures with tetrachloroethane and trichloroethylene, mass spectrometric, 4168.

NN'-Di-(2-chloroethyl) methylamine, determination, spectrophotometric, 2248.

Di-(2-chloroethylthio) ethane, determination, in presence of bis-(2-chloroethyl)sulphide, 2689.

2:4-Dichlorophenol, determination, in 4-chlorophenol, i.r. spectrophotometric, 1587.

2:2-Dichloropropionic acid, determination, in sugar cane, 2426.

5:8-Dichloroquinizarin, use of, in analysis, 1786. 3:4-Dichlorotetrahydrothiophen 1:1-dioxide, determination, spectrophotometric, 2431

4:4'-Dichloro- α -(trichloromethyl) benzhydrol. 2:2:2-Trichloro - 1:1-di - (p-chlorophenyl)ethanol.

Dichromate, determination, in presence of Cu, 510. Dicophane. (See DDT.)
Dicupral. (See Tetraethylthiuram disulphide.)

2:3-Di-(3:4-dihydroxybenzyl) butane. dihydroguaiaretic acid.

4:4'-Di[2-(3:5-diphenyl-3H-tetrazolium-2-chloride)]stilbene, use of, in analysis, 863, 864.

Didymium filter, use of, for wavelength calibration of spectrophotometers, 1053.

Dieldrin, analysis of, review, 1015.

separation and identification, paper chromato-graphic, 1014.

Dielectric constant, determination, 1582. review, 777

use of, in analysis, 886, 1582, 4153. Dienoestrol, determination, potentiometric, 3143. Diesel oil. (See Fuel oil.)

Diethanolamine, determination, 3029.

Diethazine, determination, polarographic, 252. potentiometric, 2382.

Diethyl diethylmalonate, determination of other esters in, 130.

Diethyl ether, detection and determination, in ethylene, gas chromatographic, 3374. revised B.S.I. standard for, 1881.

Diethyl ethylmalonate, determination of diethyl malonate in, i.r. spectrophotometric, 1587.

Diethyl hydrogen phosphorodithioate, use of, in analysis, 2098.

Diethyl O-4-methylcoumarin-7-yl phosphorothioate. (See Potasan.) hyl 4-methyl-2-isopropylpyrimid-6-yl

Diethyl

phate, detection, paper chromatographic, 731.

Diethyl 4-methyl-2-isopropylpyrimid-6-yl phosphorothionate, detection, paper chromatographic, 730, 731.

Diethyl 6-methyl-2-isopropylpyrimid-4-yl phos-phorothionate. (See Diazinon.)

Diethyl p-nitrophenyl phosphate. (See Para-oxon.) Diethyl p-nitrophenyl phosphorothionate. Parathion.

GO-Diethyl S-isopropylcarbamylmethyl phosphorodithioate, determination of residues of, olive oil, 4348.

Diethylamine, determination, 3785.

Diethylaminoethyl 4-butylaminosalicylate hydrochloride. (See Wofacain A.)

2-Diethylaminoethyl diphenylacetate hydrochloride. (See Adiphenin hydrochloride.)

N-2-Diethylaminoethylphenothiazine. (See Dieth-

Diethyldithiocarbamates, displacement reactions between, and metal ions in two-phase soln., 1772.

Diethylene glycol, separation, by ion exchange, 861. from dipropylene glycol, chromatographic, 1883.

Diethylenetetra-ammonium sulphatocerate, use of, as volumetric reagent, 2686.

Diethyl-p-nitrosoaniline, detection, 2274.

Diethylstilboestrol. (See Stilboestrol.)

Diethylthiambutene, detection, paper chromatographic, 3142.
 Digilanide C, determination, spectrophotometric,

Digilanide C, determination, spectrophotometric, 228.

Digitalis, analysis of extracts of, paper chromatographic, 3499.

assay of preparations of, comparison of results of, 227.

determination of cardiac glycosides in, comparison of methods for, 3498.

evaluation of, photometric, 226. spectrophotometric, 3118.

tincture of, biological assay of, 4279.

Digitalis glycosides, determination, spectrophotometric, 4277.

Digitalis lanata, determination of digoxin and digitoxin in, paper chromatographic, 4278.

Digitalis lutea, separation of glycosides in, 1335.

Digitalis purpurea, assay of, comparison of methods for, 682.

Digitoxin, assay of, comparison of results of, 227. determination, in *Digitalis lanata*, paper chromatographic, 4278.

in tissues and faeces, 3081. spectrophotometric, 228.

Digoxin, determination, in Digitalis lanata, paper chromatographic, 4278.

Dicyclohexyl, separation from mixtures with diphenyl and cyclohexylbenzene, gas - liquid chromatographic, 2262.

1:4-Dihydrazinophthalazine, determination, 1351. photometric, 3404.

Dihydrocodeine, determination, paper chromatographic, 1962.

Dihydrocodeinone, separation, paper chromatographic, 1328.

Dihydrocoumarin, separation and identification, paper chromatographic, 2792.

Dihydrohydroxycodeinone. (See Oxycodone.) Dihydromorphinone. (See Hydromorphone.)

Dihydrone. (See Oxycodone.)

Dihydrostreptomycin, determination of streptidine in, electrophoretic, 3123.

Dihydroxyanthraquinones, use of, in analysis, 796.
oo'-Dihydroxyazo compounds, reactions with Ca and Mg, 1790.

1:2-Dihydroxybenzene-3:5-disulphonic acid, disodium salt. (See Tiron.)

3:4-Dihydroxybenzoic acid, separation and determination, in urine, 4242.

o-(1:8-Dihydroxy-3:6-disulphonaphth-2-ylazo)benzenearsonic acid. (See Arsenazo.)

2:6-Dihydroxy-5-hydroxymethyl-4-methylpyrimidine, determination, 3144.
2:6-Dihydroxy-4-methylpyrimidine, determination,

3144. βδ-Dihydroxy-β-methylvalerate separation of ions

β0-Dihydroxy-β-methylvalerate separation of ions of, from acetate ions, paper chromatographic, 2329.

1:8-Dihydroxynaphthalene-3:6-disulphonic acid. (See Chromotropic acid.)

5:6-Dihydroxy-1:4-naphthaquinone. (See Naph-

4:4'-Di-(2-hydroxy-1-naphthylazo)stilbene-2:2'-disulphonic acid. (See Stilbnaphthazo.)

Dihydroxyquercetin, determination, in wood, photometric, 2423. 4:4'-Di(4-hydroxy-3-sulphophenylazo)diphenyl, use of, in analysis, 831.

1:8-Dihydroxy-2-p-sulphophenylazonaphthalene-3:6-disulphonic acid. (See SPADNS.) Dilatometer, autodifferential, 296.

Dimedrol, determination, potentiometric, 3876.

Dimefox, analysis of, review, 1015. determination, in hops, spectrophotometric, 2026. Dimercaprol, detection of propane-1:2:3-trithiol in, 3141.

Dimethoxyborane, determination, in methyl borate soln., 1556.

Dimethoxymethane, i.r. spectra of, 3377.

2:2-Dimethoxypropane, use of, as drying agent in i.r. analysis, 1061.

Dimethyl ether, detection and determination, in ethylene, gas chromatographic, 3374.

OO-Dimethyl S-methylcarbamylmethyl phosphoro-

OO-Dimethyl S-methylcarbamylmethyl phosphorodithioate, residues of, determination, on cherries, 3191.

Dimethyl phenylmalonate, determination, in presence of dimethyl ethylphenylmalonate, 2271. Dimethyl sulphate, detection, 880.

Dimethyl 2:2:2-trichloro-1-hydroxyethylphosphonate. (See *Diplerex*.)

Dimethylamine, determination, 3785.

p-Dimethylaminobenzylidenerhodanine, use of, in determination of Ag, 2529.

p-(p-Dimethylaminophenylazo) benzenearsonic acid, use of, in analysis, 443.

Dimethylaniline, determination, in air, photometric, 2802.
in mixtures with aniline and methylaniline,

spectrophotometric, 1271. identification, 1561.

Dimethylarsinic acid. (See Cacodylic acid.)

N-3:4-Dimethylbenzoylsulphanilamide, separation, paper chromatographic and electrophoretic, 1978.

2:9-Dimethyl-4:7-diphenyl-1:10-phenanthroline, use of, in analysis, 3428.

Dimethyldithizone, oo'-, use of, in analysis, 767, 2550. pp'-, use of, in analysis, 767.

Dimethylformamide, use of, for polarography at negative potentials, 3578.

Dimethyl-p-nitrosoaniline, detection, 2274. Dimethylparathion. (See Parathion-methyl.)

NN-Dimethyl-p-phenylenediamine oxidase, mination of activity of, in blood, 1658.

mination of activity of, in blood, 1698.

Dimethylthiambutene, detection, paper chromatographic, 3142.

Di-1-naphthyldiketone monoxime, synthesis and use in analysis, 527.

Di-2-naphthylthiocarbazone, use of, in analysis, 3652.

3052.
 m-Dinitrobenzene, determination, in presence of 1-chloro-2: 4-dinitrobenzene, polarographic, 142.
 2:4-Dinitrobenzenesulphenyl chloride, prep. of, and

m.p. of deriv. of, 2229.

Dinitrophenols, 2:4-, 2:5- and 2:6-, separation,

electrophoretic, 1563.

Dinitrophenylhydrazones, 2:4-, regeneration of carbonyl compounds from, 872.

separation, chromatographic, 873.

Di-(m-nitrophenylsulphonyl)amine, use of, as volu-

metric standard, 2082.

Diisonitrosoacetone. (See Dioximinoacetone.)

2:4-Dinitro-1-thiocyanatobenzene, use of, in analysis, 376.

Dinitrotoluene, determination, 3421. in propellants, polarographic, 2308.

Dioctyl phthalate, determination, in propellents, elimination of interference from nitroglycerin, 928.

2:3-p-Dioxandithiol SS-bis-(OO-diethyl phosphoro-dithioate). (See Delnav.)

Dioximinoacetone, use of, in analysis, 890.

Diparcol. (See Diethazine.)

Dicyclopentadiene, determination, 2265.

Dicyclopentadienyl iron dicarboxylic acid, determination, i.r. spectrophotometric, 2270.

Dipeptidase, detection of activity of, 659.

Dipeptides, detection, 659.

determination, photometric, 3463. Diphenhydramine, determination, 3115. identification, 4292.

Diphenyl, determination, in citrus fruits, spectrophotometric, 263.

identification and determination, in orange peel, spectrophotometric, 3522.

separation from mixtures with dicyclobexyl and cyclohexylbenzene, gas-liquid chromatographic, 2262.

Diphenyl ether, determination, in mixtures with azobenzene and diphenylamine, i.r. spectrophotometric, 4227.

Diphenylamine, determination, 3785.

in mixtures with azobenzene and diphenyl ether, i.r. spectrophotometric, 4227. in propellents, polarographic, 2308. of 4-aminodiphenyl in, photometric, 143.

identification, 1561.

use of, as indicator, 770.

sym.-Diphenylcarbazide, use of, in analysis, 2608, 3321.

1:5-Diphenylcarbohydrazide. (See sym.-Diphenylcarbazide.)

Diphenyldi-o-tolyloxamidine, use of, in analysis, 4001.

Diphenylhydantoin, separation and determination, in presence of phenobarbitone, chromatographic, 3131.

1:2-Di(phenylthiocarbamoyl) hydrazine, use of, in analysis, 1478.

Diphenylthiourea, detection, 144.

2:3-Diphosphoglyceric acid, determination, 195.

Dipicrylamine. (See Hexanitrodiphenylamine.) Diprophylline, determination, 3880.

Dipropionitriles, use of, in gas chromatography, 1913.
Dipropylene glycol, determination of density and

refractive index of aq. soln. of, 1252.
separation from diethylene glycol, chromatographic, 1883.

Dipterex, determination, polarographic, 2819. 2:2'-Diquinolyl, use of, in analysis, 2117, 4000.

Disaccharides. (See also individual compounds.) identification, i.r. spectrophotometric, 3018. separation, chromatographic, 4176.

Disinfectants. (See Germicides.)

Disodium catechol-3:5-disulphonate. (See Tiron.)
Disodium 1:2-dihydroxybenzene-3:5-disulphonate.
(See Tiron.)

Disodium ethylenediaminetetra-acetate. (See Ethylenediaminetetra-acetic acid.)

Distillation. (See also Fraction collector.)

analysis by, review of industrial applications of, 2867.

apparatus for, 1033, 2437.

fractional, design for laboratory for, 302.
of water, apparatus for, automatic, self-regulated,
3940.

vacuum, apparatus for, 1400. bulb-tube assembly for, 304. continuous, automatic receiver for, 303. improvised traps for, 305.

Disulfiram, use of, in determination of Hg, 3281.

Disulphide groups, determination, in dithiocarbamates and thiurams, 2257.

Disulphides, organic, determination, in petroleum, 1920, 1921.

potentiometric, 208.

Dithiol. (See Toluene-3: 4-dithiol.)

Dithionate, separation, paper chromatographic, 1833.

Dithionite, analysis of, 1832.

determination, 819.

in mixtures of inorganic S compounds, 2966.

Dithio-oxamide, compounds with Au and Pd, composition and analytical use of, 2897. determination, polarographic, 3787. metal chelates of, i.r. spectra of, 3390. use of, in analysis, 1527.

Dithizone, use of, in analysis, review, 5.

NN'-Di-o-tolylethylenediamine, separation and determination, in rubber, paper chromatographic, 3816.

Di-p-tolylthiocarbazone. (See pp'-Dimethyl-dithizone.)

Ditolylthiovioluric acids, use of, in analysis, 3241. Divascol. (See *Tolazoline*.)

Dodecylacetamidodimethylbenzylammonium chloride, identification and determination, u.v. spectrophotometric, 4189.

Dodecylpyridinium chloride, use of, as polarographic max. suppressor, 1095.

Dodecyltrimethylammonium chloride, use of, as polarographic max. suppressor, 1095.

Dolomite, analysis of, 4149.

determination of Ca and Mg in, 41, 2127.

Domiphen bromide, identification and determination, u.v. spectrophotometric, 4189.

Doré metal, determination of Pd in, spectrographic, 3004.

Driers. (See Paint.)

Dropping-funnel, for radioactive tracer work, 3558. Drugs. (See also Pharmaceutical analysis.)

anti-malarial, determination, by ion exchange, 253. identification, 4303.

separation and determination, u.v. spectrophotometric, 3873.

temp. coeff. of specific rotation of, 4273.

Drying. (See Water.)

Drying apparatus, for microanalysis, 735.

Dulcin, determination, in foodstuffs, 1372. spectrophotometric, 3163.

Dunite, determination of K and Na in, radiochemical, 1449.

Duralumin, determination of Mn in, 512.

Dust, analysis of, electrophoretic and chromatographic, 3174.

lung, analysis of, 2515.
Dyes, acid triphenylmethane, separation, paper chromatographic, 158.

authorised for use in food, separation, paper chromatographic, 2793.

determination, 1293, 2295.

of Heliogen blue SBL, potentiometric, 162. of Hg in, 160.

fat-soluble, analysis of, paper chromatographic, 159.

identification, in food, paper chromatographic, 3166.

indigosol, determination, potentiometric, 2296. separation, in food, paper chromatographic and electrophoretic, 1991.

triphenylmethane, determination, 3809.

E 605. (See Parathion.)

EDTA. (See Ethylenediaminetetra-acetic acid.) ENTA. (See Ethylenediaminetetra-acetic acid.)

Earth waxes. (See Waxes.)

Ebulliometer, for mol. wt. determinations, 3221. for organic liquids, 2844.

micro-, for mol. wt. determinations, 1070, 2845.

Edetic acid. (See Ethylenediamineletra-acetic acid.) Effluents. (See Industrial wastes; Sewage.) Egg, determination, in egg - dough products,

comparison of methods for, 983. Egg products, identification and determination of

benzoic acid and boric acid in, 994. Elaeostearic acids, α - and β -, determination, u.v.

spectrophotometric, 1890. Electrical industry, applications of chemical analysis in, 2478.

Electrochemical analysis, review, 1082. with modified Winkler electrodes, 2455.

Electrochromatography. (See also Electrophoresis.) use of, in analysis of serum, 3469.

in separation of anions and cations, 1774. Electrodes, dropping-mercury, rotated, applications,

3232. factors influencing limiting current at, 3233. hanging mercury-drop, rotating, 4384.

use of, in determination of small concn. of ions, 3231.

lead dioxide, use of, in amperometric titrations, 4391.

mercury membrane, use of, in polarography, 1725. non-polarisable, use of, in amperometric titrations, 4391.

permselective membrane, 4388.

properties of glass for, 2462. streaming-mercury, construction of, 2461.

Electrolysis, controlled potential, apparatus for, automatic, 3226. and methods for, 2066.

Electrolytic analysis. (See Electrochemical analysis.) Electron microscopy, review of industrial applications of, 2867.

Electron-spin resonance spectrometry. (See Spectrometry.

Electrophoresis, agar, apparatus and technique for, 1746.

comparison with other media, 3468. apparatus for, 1076, 2457, 2849, 4381.

combined with paper chromatography, technique for, 312.

continuous, apparatus for, 2456, 2460.

dark-field, use of thick-walled cylindrical cell in, 2458.

densitometer for, 2442, 4382, 4383.

densitometric adaptor for direct plotting of curves, 2459.

density-gradient, apparatus for, 2067.

detection of u.v. absorbing compounds, contact printing frame for, 1040.

evaluation of non-transparent electropherograms, photometric, 14.

fluid film, effect of buffer on, 2349. high-tension, apparatus for, 1077.

horizontal, apparatus for, 3959. micro method for, 4380.

of inorganic anions, 2881.

on sponge rubber, 331.

preparative, multi-compartment apparatus for, 1748.

quant. microscopic, technique for, 3958. reviews, 774, 1433, 2092, 3253.

of industrial applications of, 2867.

Electrophoresis—continued

separation of anions by, 2514.

of cations by, 1108, 1529, 1785, 3261. of complex ions by, 1094.

of isotopes by, review, 3203. technique for, 13, 1412, 2043. for quant. ultra-micro, 1413.

use of poly(vinyl chloride) "paper" as carrier material in, 757.

volatile buffer for use in, 2504.

zonal, in agar gel, apparatus for, 756.

in columns, 1075.

use of cellulose acetate as supporting medium in, 1747.

Electroplating solutions, cadmium, determination of Cd and CN- in, polarographic, 1465. chromium, determination of Fe in, 2634.

gold, determination of Au in, 36.

nickel, determination of B and Ni in, flame spectrophotometric, 3001. of naphthalene-2:6- and -2:7-disulphonic

acids in, photometric, 2697.

zinc, analysis of, polarographic, 1464.

determination of Ge in, spectrophotometric, 2152.

zinc cyanide, determination of Mo in, photometric, 2189.

zinc sulphate, determination of Cl- in, 506 Emetine, detection, paper chromatographic, 2364. Emetine hydrochloride, detection of cephaeline in,

Emission spectrography, (See Spectrography, emission.

Endrin, determination, spectrophotometric, 4349. Enzymes, determination of activity of, 4271.

Ephedrine, determination, 2365. potentiometric, 3876.

spectrophotometric, 1670. identification, paper chromatographic, 1682.

Ephedrine hydrochloride, separation, chromatographic, 1330.

paper chromatographic, 1966. Epinephrine. (See Adrenaline.) Epoxides, α-, determination, 1251. determination, 858, 3789.

in unsatd. fatty acids and oils, 2303.

Epoxy groups, determination, 117. Epoxy resins. (See Resins, synthetic.)

Equilenin, separation, paper chromatographic, 3862. Equilin, separation, paper chromatographic, 3862. Ergocalciferol, determination, 998.

Ergot, determination of alkaloids in, comparison of methods for, 3494.

Ergot alkaloids, determination, u.v. spectrophotometric, 679.

separation and identification, paper chromatographic, 3495.

Ergotamine, determination, paper chromatographic, 223.

Ergotoxine, determination, paper chromatographic, 993

Eriochrome black T, use of, in analysis, 2133.

Eriochrome blue black R, use of, in analysis, 2133, 2312.

Eriochrome cyanine R, use of, as indicator, 2499. Eriochrome red B, use of, as indicator, 1756, 3631. in analysis, 2133.

Errors, calculation of, 1425.

Erythromycin, identification, 1338. Essential oils. (See Volatile oils.)

Esterase, determination of activity of, photometric,

Esters, determination, i.r. spectrophotometric, 3015. of equiv. wt. of, by ion exchange, 2682.

Esters-continued

fatty, separation, gas - liquid chromatographic, 1896.

separation, chromatographic, 4184. from hydrocarbons, 2677.

Estradiol. (See Oestradiol.) Estriol. (See Oestriol.)

Estrone. (See Oestrone.)
"Etazol." (See

(See Sulphaethylthiadiazole.)

Ethane, analysis of, i.r. spectrophotometric, 3817. determination, in coal gas, gas chromatographic,

Ethanediol, separation, by ion exchange, 861. Ethanol, determination, 1355, 1661.

in blood, simplified calculation for, 1597.

spectrophotometric, 938, 3436.

in mixtures with butanol, microbiological, 860. in tinctures, by critical soln. temp. measurement, 2770.

of methanol in, 3776.

of H₂O in, 563.

separation, chromatographic, 1883.

from mixtures with methyl cyanide, triethylamine and water, gas chromatographic, 2228.

Ethanolamine, determination, 3029. in carbonated soln., potentiometric, 4188

Ethers, aryl methyl, separation, gas - liquid chromatographic, 4201.

determination, i.r. spectrophotometric, 3015. separation, gas chromatographic, selectivity of liquid substrates in, 1913.

Ethiacin. (See 2-Hydroxyethyl nicotinate.)

Ethinyloestradiol, determination, i.r. spectrophotometric, 3126.

identification and determination, spectrophotometric, 1353.

Ethisterone, determination, i.r. spectrophotometric, 3126.

spectrophotometric, 2758. u.v. spectrophotometric, 2355.

p-Ethoxychrysoidine, use of, as oxyadsorption indicator, 3244.

cis-a-Ethoxy-\beta-methoxymethylacrylonitrile, determination, 2255.

Ethyl acetate, determination of H2O in, 563.

Ethyl alcohol. (See Ethanol.)

Ethyl bromide, determination of benzene, ethanol and water in, i.r. spectrophotometric, 4227.

Ethyl methyl ketone, separation from mixtures with CHCl3 and isopropyl alcohol, gas chromatographic, 2228.

Ethyl salicylate, determination, 1560.

Ethyl silicate, determination of Si in, photometric,

Ethylene, detection and determination of diethyl and dimethyl ether in, gas chromatographic,

determination, in air, 1878.

in coal gas, gas chromatographic, 3409.

Ethylene dibromide. (See Dibromoethane.)

Ethylene dichloride. (See Dichloroethane.)

Ethylene glycol. (See Ethanediol.)

Ethylene oxide, detection, 555. determination, in air, 711.

in fumigated copra, 2030.

Ethylenediamine, determination, in mixtures with polyethyleneamines, 3027.

Ethylenediaminedi-(o-hydroxyphenylacetic acid), use of, in analysis, 1855.

Ethylenediaminetetra-acetic acid, determination of cations with, potentiometric, 3257. turbidimetric and spectrophotometric, 3786.

end-point detection in use of, 1432, 3249.

thermal stability of, 339.

Ethylenediaminetetra-acetic acid-continued

titration of, standards for, 3968.

use of, as masking agent, review, 2870. Ethylenedinitrilotetra-acetic acid. (See Ethylenediaminetetra-acetic acid.)

Ethylhydrocupreine, determination, oscillopolarographic, 2363.

N-Ethylmaleimide, use of, in analysis, 4164, 4165. Ethylmercury chloride, determination, polaro-

graphic, 4196, 4300. separation, paper chromatographic, 3036

Ethyl-1-methylbenzene, 2-, 3- and 4-, determination, i.r. spectrophotometric, 3069.

Ethylmethylthiambutene, detection, paper chromatographic, 3142.

Ethylmorphine, determination, polarographic, 221. separation, paper chromatographic, 1328.

determination, i.r. spectro-3-Ethyl-4-picoline, photometric, 2276.

5-Ethyl-2-picoline, determination, i.r. spectrophotometric, 2276.

Ethylpyridines, i.r. spectra of, 1564.

p-Ethylsulphonylbenzaldehyde thiosemicarbazone, use of, in analysis, 399.

Ethyltoluenes, analysis of mixtures of, i.r. spectrophotometric, 3817.

Ethylvanillin, detection, in foodstuffs, paper chromatographic, 991.

1-Ethynyl-1-(2:2:2-trichloro-1-hydroxyethoxy)cyclohexane, detection, 1352

Euchroic acid, identification, 1272.

Eugenol, and iso-, detection, 1266.separation, paper chromatographic, 3052.

Europium, separation, from U, 831. Explosives, analysis of, 3421.

nitramine and nitrate, detection, 1586.

Extraction, apparatus for, 2834. micro-, 3945.

continuous, apparatus for, 1729, 3942. liquid - liquid, apparatus for, automatic, 301. of metals, with acetylacetone, 1105.

review of industrial applications of, 2867. separation of elements, by use of fusible organic

substances, 2483. methods for, review, 1082.

solvent, applications, review, 1104. apparatus for, automatic, 1399.

use of, in physico-chemical analysis, 338. Extraction, countercurrent. (See Countercurrent extraction.)

FW-293. [See 2:2:2-Trichloro-1:1-di-(p-chlorophenyl)ethanol.

Fabrics. (See Textiles.)

Faeces, determination of crude fibre in, 3553.

of digitoxin in, 3081. of esterified fat in, 645.

of 210Po in, 3434.

of Tl in, photometric, 4229.

Fast grey RA, use of, as metallochromic indicator,

in analysis, 1809, 2118, 2175, 2178, 2190.

Fats. (See also Fatty Oils; Triglycerides.) analysis of, B.S.I. revised methods for, 3526.

fluorimetric, 1696. detection of animal and vegetable, in mixtures, paper chromatographic, 2404.

of rancidity of, 2796.

of sterols in, paper chromatographic, 4321. determination, in meal, 3528. of carotenoids in, spectrophotometric, 1616. Fats, determination-continued of fatty acids in, 3529. of iodine value of, 2406.

of trans-isooleic acids in, 3531.

of oxidation of, spectrophotometric, 1695. of oxidised acids in, chromatographic, 1374.

of stability of, 3527.

esterified, determination, in faeces, 645. rancid, detection of volatile saturated aliphatic aldehydes in, 2409.

reporting of peroxide values of, 2408.

Fatty acids. (See also Carboxylic acids.)

analysis of, gas - liquid chromatographic, 3168. mass spectrometric, 1698.

C₁ to C₄, determination, in aq. condensate from oxidation of paraffins, 3800.

C1 to C12, separation and identification, paper chromatographic, 576.

C2 to C6, separation, paper chromatographic, 876. and determination, paper chromatographic, 1005.

determination, in fats, oils and methyl esters, 3529.

in silage, by counter-current extraction, 4345. higher, separation, paper chromatographic, 3530. methyl esters, of determination of fatty acids in, 3529.

separation and determination, gas chromatographic, 4319.

saturated, separation, paper chromatographic,

separation and identification, paper chromatographic, 2238, 3167.

soap, separation, paper chromatographic, 1576. straight chain, analysis of, paper chromatographic, 2405.

sulphur deriv. of, identification, i.r. spectrophotometric, 2688.

unsaturated, determination of epoxides in, 2303. paper chromatographic, 3911.

methyl esters of, separation, gas chromatographic, 4320.

separation of free acids and their glycerides, paper chromatographic, 1376.

Fatty oils, analysis of, B.S.I. revised methods for,

3526. detection of rancidity of, 2796.

and identification, i.r. spectrophotometric, 2795.

determination of epoxides in, 2303.

of fatty acids in, 3529.

of iodine values of, 2406, 2407.

of peroxide values of, 3909.

of stability of, 3527.

modified, detection, 2304.

reporting of peroxide values of, 2408. separation of arachis oil from, paper chromato-

graphic, 3908.

of constituents of, paper chromatographic, 2405. and determination of Fe in, by ion exchange,

1375 vegetable, determination of soap in, conducti-

metric, 1993. evaluation of colour of, spectrophotometric, 1992.

Feeding-stuffs. (See also Silage.)

analysis of, scheme for, 4344.

cattle, determination of 2:2:2-trichloro-1:1-di-(p-chlorophenyl)ethanol residues in, 2028.

determination of chlortetracycline in, spectrophotometric, 1013.

of free and total gossypol in, spectrophotometric, 2816.

Feeding-stuffs, determination-continued of P in, spectrophotometric, 2815.

of piperazine in, 2817.

salt mixtures for, determination of Co in, spectrophotometric, 290. Felspar, determination of Cs and Rb in, X-ray

spectrographic, 786.

Ferrate, determination, 3745.

Ferric chloride, extraction of, solvent system for, 4116.

Ferric nitrate, determination, in iron-pickling liquor,

Ferric oxide, determination, in alumina, spectrographic, 55.

in rubber, photometric, 3815.

Ferric thiocyanate, aq. soln. of, stabilisation of colour of, 843.

stability of, in various media, 4192.

Ferricyanide, alkaline, use of, as volumetric oxidising agent in spectrophotometric titrations, 2490. Ferro-alloys. (See Iron alloys.)

1:1'-Ferrocene dicarboxylic acid. (See Dicyclopentadienyl iron dicarboxylic acid.)

Ferrocyanide, determination, 3740. Ferro-magnetic metals, determination, high-frequency, 103.

Ferron, use of, in analysis, 501. Ferrophosphorus. (See Iron alloys.)

Ferrosilicon. (See Iron alloys.)

Ferrous ammonium sulphate, determination, po-

tentiometric, 1085.

Ferrous metals. (See Iron; Iron alloys; Steel.) Ferrous oxide, determination, in chromite, 518.

Fertilisers, determination of B in, flame spectrophotometric, 1012.

of Mg in, 727.

of phosphate in, 1719, 1720.

of P in, flame photometric, 2814. of K in, 27.

by ion exchange, 4342.

Fibre, crude, determination, 3553. in cereal products, comparison of methods for,

2388. Fibres, analysis of mixtures of protein and nonprotein, B.S.I. method for, 1295.

determination of polyamides in mixtures of, 3058. examination of, spectrographic, 2715.

i.r. spectra of, 3570.

textile, analysis of mixtures of, 1578. Fibrinogen, determination, in plasma, comparison of methods for, 940. turbidimetric, 2324.

standard for, 207.

Fibrinolysin, determination, 3455. Filtration, apparatus for, micro-, B.S.I. standard for, 2037.

for use in organic analysis, 1030.

two-piece centrifuge crucible for micro ppt., 1031. vacuum, technique for, 307.

Fire-damp, detection, interferometer for, 3220. Fish, canned, determination of histamine in,

spectrophotometric, 980. Fish meal, determination of nitrite in, spectrophoto-

metric, 2025. of vitamin B12 in, 3534.

Fish oils, identification of constituents of, paper chromatographic, 1994.

Fish-liver oils, determination of vitamin A in, spectrophotometric, conversion factors for, 267.

Flame photometer. (See Photometer, flame.) Flame photometry. (See Photometry, flame.) Flavanol, use of, in analysis, 804.

Flavanones, detection, 3187. paper chromatographic, 284. Flavianic acid, determination, polarographic, 3787. Flavin mononucleotide, separation, by countercurrent extraction, 943. Flavinadenine dinucleotide, separation, by countercurrent extraction, 943. Flavins, determination, review, 3171. Flavonoids, determination, in citrus fruits, spectrophotometric, 699. Flavouring materials, determination of formyl radical in, spectrophotometric, 2401. Flour, biscuit, evaluation of, 1984. comparison of instruments for testing of, 259. determination of a-amylase activity in, 2778, 3161. of hemicelluloses in, 3151. of thiol groups in, amperometric, 2389. hard wheat, detection, 260. Fluorenone, detection, 1911. N-2-Fluorenylacetamide, detection, 4203. Fluorescence X-ray spectrometry. (See Spectrometry, fluorescence, X-ray.) Fluoride. (See also Halides.) detection, 1202, 1512. and determination, paper chromatographic, 1845. determination, 500, 501, 1206, 2199, 4105. amperometric, 3338. by isotopic dilution, 2625. in animal tissue, 2726. in biological extracts, spectrophotometric, 3430. in cryolite, by ion exchange, 1204. in industrial wastes, 3186. in natural water, 3182, 3539. in thorium oxide and triuranium octoxide, spectrographic, 835. in uranium tetrafluoride, by ion exchange, 4107. in water, removal of interference in, 503. in wood, 2424. in Zr - U fuel processing soln., 1205. photometric, 2624, 3730. spectrophotometric, 1203, 3729. turbidimetric, 4104. u.v. spectrophotometric, 2185. limit test for, in calcium phosphate, 838. separation from PO43-, 2169. Fluorimeter, apparatus and applications, 1740. direct-reading, 2061. for analysis of uranium, 1065. Fluorimetry, review of industrial applications of, 2867. Fluorine. (See also Halogens.) determination, 1513, 2198. amperometric, 95. apparatus for, 306. comparison of methods for, 836 in aluminium fluoride, 837, 3337.

Fluorocarbons, separation, gas - liquid chromato-

graphic, 2230.

1990 3166.2793.detection, 1551. automatic, 9. in air, 4327. in food, 1989. 2117 4307. in cryolite and fluorspar, 837. in fluorocarbon plastics, 4224. in lead fluoroborate, by ion exchange, 438. in lead products, 4102. nickel hydroxyfluoroborate electrolytes, 4141. in organic compounds, 1248, 2666. simultaneously with C and H, 1542. spectrophotometric, 1203. in rocks, spectrophotometric, 502. 2411. in zinc products, 4102. spectrographic, 4106. elementary, determination, 1201. Fluorine, organic compounds of, analysis of, reviews, 1247, 3361. determination of C and H in, 1243. 4312.

cxxxix Fluorspar, determination of F- in, 837. Fluxes, determination of Si in, photometric, 4127. welding, analysis of, spectrographic, 1533. Folic acid, assay of, in clinical analysis, review, 3835. determination, fluorimetric, 1661. in presence of azo dyes, 965. Folidol. (See Parathion.) Food. (See also Feeding-stuffs.) analysis of, review, 2478. detection of spices in, microscopical, 992. determination of As in, 2171. of moisture in, i.r. technique for, 2771. of preservatives in, paper chromatographic, of Sn in, oscillopolarographic, 2772. identification of dyes in, paper chromatographic, separation of dyes in, paper chromatographic and electrophoretic, 1991. authorised for use in, paper chromatographic, Food colours. (See Dyes; Food.) Forage. (See Feeding-stuffs.) Formaldehyde, B.S.I. standard for, 1886. determination, 3021. comparison of methods for, 874. in industrial wastes, spectrophotometric, 3186. in presence of acetaldehyde and H2O2, polarographic, 4177. of ammonium salts, 1887. potentiometric, 220 separation, from aldehyde mixtures, chromatographic, 1254. Formamide, use of, in Karl Fischer method, 868. Formic acid, determination, 3021. in C₁ to C₄ fatty acid mixtures, 3800. in presence of oxalic acid, 561. spectrophotometric, 2728. separation, paper chromatographic, 3023. Formol. (See Formaldehyde.) Foundry waste, determination of Cu in, photometric, Fraction collector, for use in vacuum, 2836. improved splash tube for, 1034. use of siphon with variable capacity as, 1035. Freezing-point, determination of purity by, 752, 755. apparatus for, 753. Freon-12. (See Dichlorodifluoromethane.) Frits, determination of Pb in, 3667. Fructose, determination, in body fluids, 4231. polarimetric, effect of basic Pb acetate soln. on, spectrophotometric, 1547, 1548, 2233. separation and determination, paper chromatographic, 3086. Fruit, analytical data of, 3523. characterisation of polyphenols in, u.v. spectrophotometric, 1367 separation and identification of aldehydes and ketones in, chromatographic, 1754. Fruit juice, analysis of, 2393. determination of ascorbic acid in, potentiometric, of O in, polarographic, 2788. of preservatives in, paper chromatographic, of titratable acidity of, potentiometric, review,

of total acids in, electrometric, 1368.

of volatile acids in, 1371.

Fruit products, analysis of, 2393.

"Ftivazid." (See N-4-Hydroxy-3-methoxybenzylidene-N-isonicotinoylhydrazine.)

Fuel ash, analysis of, 3006.

determination of alkali metals in, flame photometric, 2113. of Fe^{2+} in, 2636.

Fuel gas. (See also Gas.)

analysis of, u.v. and mass spectrometric, 4213.

Fuel oil, determination of C and H in, 910. of non-settling water in, 1917. of water and impurities in, 1916.

diesel, analysis of, 1283.

determination of S in, 904.

Fumaric acid, determination, in fermentation broth, by ion exchange, 877.

identification, in plant tissues, paper chromatographic, 4334.

separation, chromatographic, 4181.

Fumaronitrile, determination, polarographic, 567. Fungi, determination of amino acids in. 1366.

Fungicides, copper, determination of deposits of, 728.

dithiocarbamate determination of residues of, 2821.

Furan-2:5-dicarboxylic acid, detection, in urine, paper chromatographic, 944.
 Furanochromones, identification, by eutectic m.p.

determination, 1334.

Furazolidone, determination, in feeding-stuffs, 3933. Furfuraldehyde, detection, 1551.

determination, nephelometric, 2236. u.v. spectrophotometric, 126. with barbituric acid, 126.

β-Furfuraldoxime, use of, in analysis, 536.

N-(a)-Furfuryl-N-methyl-p-nitrosoaniline, detection, 2274.

2-Furoylperfluorobutyrylmethane, use of, in analysis, 1503.

2-Furoyltrifluoroacetone, use of, in analysis, 1503.
Fusaric acid, detection and determination, paper chromatographic, 2277.

Fusel oil, determination of higher alcohols in, spectrophotometric, 3016.

G

Galactose, D-, methylated, separation, paper chromatographic, 3017.

separation, paper chromatographic, 866. determination, in blood, spectrophotometric,

2727. paper chromatographic, 3086.

spectrophotometric, 945, 3379. identification and determination, spectrophotometric, 3445.

separation, from lactose, paper chromatographic, 867.

Galacturonic acid, determination, spectrophotometric, 945.

Gallein, use of, in analysis, 4068. Gallic acid, determination, 573.

separation and determination, in urine, 4242.

Gallium, co-pptn. of, with sulphides, 1107.

determination, 3651. fluorimetric, 2140.

in minerals and rocks, spectrophotometric, 2916.

in presence of Fe, polarographic, 1468. of PO₄³-, 72.

in sea water, spectrophotometric, 3921.

Gallium, determination-continued

in silicate rocks and minerals, spectrographic, 2917.

in silicates, spectrographic, 3650.

of As in, 2954.

polarographic, 1469. spectrophotometric, 2139.

separation from Cd and Pb, by ion exchange,

from Co, Cu, Fe, Ni and Zn, by ion exchange, 4026.

Gamma benzene hexachloride. (See Hexachlorocyclohexane.)

Gamma hexachlorocyclohexane. (See Hexachlorocyclohexane.)

Gamma-acid, determination, in presence of J-acid, i.r. spectrophotometric, 592.

Gamma-globulin. (See Globulin.)

Gamma-ray spectrometry. (See Spectrometry.) Gammexane. (See Hexachlorocyclohexane.)

Gangliosides, separation from acetyl phosphatides and cerebrosides, paper chromatographic, 2334.

Gas. (See also Coal gas; Fuel gas: Gas analysis.) coke-oven, determination of benzole in, 1575. flame photometric, 315.

of naphthalene in, 1575.

of NO in, 1811. continuous, 2952.

natural, determination of He and H in, gas chromatographic, 2100.

Gas analysis. (See also Chromatography, gas; Gases.) apparatus and method for, 1022.

const. vol., apparatus for, 2832. continuous, apparatus for, 1026.

of hydrocarbons, apparatus for, automatic, 738. of inert gases, apparatus for, 737. photo-electric, 3954.

review of industrial applications of, 2867.

of methods for, 3596.
sonic analyser for, 1023, 1024, 1025, 2031, 2830.
elimination of standing waves from, 2831.
thermodynamic, 3599.

use of thermal conductivity in, 2847.

Gas, fuel. (See Fuel gas.)

Gas industry, applications of physical analytical methods in, 2478.

Gas oil. (See Fuel gas.)

Gases, analysis of mixtures of, gas chromatographic, apparatus for, 1021.

apparatus for delivery of, 3560.

automatic measurement of, apparatus for, 297. containing ethylenic hydrocarbons, determination of moisture in, 1879.

detection, electrochemical, 329, 330. determination, in metals, 1101.

apparatus for, 1068.

of O in, 2963. of water in, 1779.

continuous, by vacuum u.v. absorption, 2885. flame, sampling of, for analysis, 3405.

flue, determination of CO₂ in, apparatus for, 1074. measurement of vol. of, apparatus for, 1027.

radioactive, ionisation-chamber assay of, review, 1422.
rare, analysis of, mass-spectrometric, 22.

valve for controlling flow-rates of, 4353.

Gasoline. (See Petrol.)

Gastric juice, determination of peptic activity in, 1654.
Gelatin, determination of Cu in, photometric, 3050.

Gelatin, determination of Cu in, photometric, 3050. of Fe in, photometric, 3806. identification, 2299.

Gentiobiose, separation, from isomaltose, chromatographic, 4176. Gentisic acid, determination, polarographic, 2379. spectrophotometric, 2378.

Germanium, complexes of, polarographic behaviour of. 430

detection, 1814.

paper chromatographic, 2151.

determination, 1442, 1477.

effect of H2SO4 on, 2566.

in coal ash, spectrographic, 1803.

in ores, coals and industrial wastes, 3292.

in presence of As, polarographic, 2098.

in sea water, spectrophotometric, 3922.

in zinc-plating soln., spectrophotometric, 2152. polarographic, 431, 2567. spectrophotometric, 429.

Germanium oxide, determination of P in, spectrophotometric, 2932.

Germicides, phenolic, determination of activity of, polarographic, 4301.

Ghee, detection of adulteration of, by critical temp. of dissolution, 2787.

of vanaspati in, 1365. Gibberellic acid, analysis of, paper chromatographic,

determination, by isotopic dilution, 4335.

Girard reagent T, preparation of, 768. Glass, analysis of, B.S.I. methods for, 1238, 3356.

comparison of methods for, 2929. colourless, B.S.I. standard for sand for, 3355.

determination of B in, spectrophotometric, 3645. of Cd in, polarographic, 398.

of Cr in, 84.

of Co in, photometric, 2649.

of Cu in, 31.

of MnO in, 1850.

of K and Na in, flame spectrometric, 3607.

of SiO, in, 428.

of S in, potentiometric, 2605.

separation of K and Na in, chromatographic, 360

Glass electrodes. (See Electrodes.)

Glazes, determination of Pb in, 3667.

Globulin, determination, in serum, 3098. standard for, 207.

y-, determination, turbidimetric, 2746.

Glucagon, determination, 2730.

Glucokinase, determination of activity of, in liver,

Glucoproteins. (See Glycoproteins.)

Glucosamine, D-, methylated, separation, paper chromatographic, 3017.

determination, in presence of protein, 191.

separation and determination, paper chromatographic, 3086.

Glucose, detection, in urine, 623, 937.

determination. in blood, spectrophotometric, 3087, 3830.

in body fluids, 4231.

in c.s.f., spectrophotometric, 3087.

in presence of lactose, 3778.

in serum, 4230.

in urine, photometric, 1609.

polarimetric, effect of basic Pb acetate soln. on, 4307.

spectrophotometric, 3379.

identification and determination, spectrophotometric, 3445.

separation from lactose, paper chromatographic,

from sorbitol, paper chromatographic, 4173. paper chromatographic, 866.

and determination, in presence of maltose,

paper chromatographic, 3086.

Glucuronic acid, determination, 946.

in urine, photometric, 1609.

spectrophotometric, 3090.

Glucuronidase, determination of activity of, in urine. 3101.

Glutamic acid, determination, in presence of citric, malic and succinic acids, 654. photometric, 1358.

identification of isomers of, 951.

L-, determination, 653.

separation and determination, by ion exchange,

Glutamic - oxalacetic transaminase. (See Transaminases.)

Glutamic - pyruvic transaminase. Transaminases.)

Glutamine, determination, in α-chymotrypsinogen, 2339.

in plants, spectrophotometric, 4333.

in proteins, 3465.

Glutathione, disulphide deriv. of, determination, potentiometric, 208.

Glycerides, separation, chromatographic, 1377.

Glycerol, determination, in alkyd resins, 921. in blood, spectrophotometric, 1307.

in wine, photometric, 701.

of degree of etherification of, 1546.

separation, by ion exchange, 861.

Glycinenaphthol violet, use of, as metallochromic indicator, 3595.

Glycinethymol blue, use of, as indicator, 2495. Glycollaldehyde, determination, spectrophotometric, 3446.

Glycols. (See also Polyalkylene and Polyethylene glycols.)

determination, 123. separation, by ion exchange, 861.

Glycoproteins, serum, separation, electrophoretic, 1639.

Glycosides. (See also plants of origin and individual compounds.)

identification, by eutectic m.p. determination, 1334. phenolic, determination, paper chromatographic,

separation, paper chromatographic, 2757.

Glyoxylic acid, detection, electrophoretic, 636. determination, comparison of methods for, 874. spectrophotometric, 3446.

Gold, determination, 2882, 2897. amperometric, 377, 827

in electroplating soln., 36.

in nickel, radiochemical, 3626.

in ores and slags, spectrographic, 2898.

in platinum, 378.

in presence of Cu, paper chromatographic, 2896.

in sea water, radiochemical, 35.

in silver, radiochemical, 3626.

of trace metals in, polarographic, 2883. spectrophotometric, 2123.

study of cupellation losses in, 4008.

oscillopolarographic behaviour of, 847.

separation, electrochromatographic, 848, 1869. electrophoretic, 1785. from Pb, 2207.

paper chromatographic, 4142.

Gonadotrophins, determination, in urine, 3453, 3454.

Gossypol, determination, in cottonseed meal, spectrophotometric, 2425. spectrophotometric,

of free and total, in feeding-stuffs, spectrophotometric, 2816.

Grain, determination of F- in, comparison of methods for, 836.

Gramine, separation, from barley, paper chromatographic, 3901.

Granite, standard G-1, analysis of, spectrographic, 2223.

Grape must, determination of must weight, alcohol and extract content of, by pycnometer method, simplified equations for, 4314.

Grapefruit, determination of \(\beta\)-carotene and lycopene in, spectrophotometric, 3188.

Graphite, determination, in refractories, X-ray spectrometric, 2564.

of B in, spectrographic, 1142, 1143. spectrophotometric, 402.

of Ca, Li, K and Na in, flame photometric, 2104. of particle size of, by reflectivity, 3.

of V in, radiochemical, 1175.

Gravimetric analysis, inorganic and organic, review of industrial applications of, 2867. organic, filtration apparatus for, 1030.

Groundnut oil. (See Arachis oil.) Guaiacol, determination, 4287.

Guanidine, determination of ammonium salts in presence of, potentiometric, 884.

Guanidine nitrate, determination, potentiometric,

Guanine, determination, electrophoretic, 1617. separation and identification, paper chromatographic, 633.

Gum tragacanth. (See Tr Gusathion. (See Guthion.) (See Tragacanth.)

Guthion, determination, spectrofluorimetric, 3556. Gypsum, determination of H₂O in, 388.

H

5-HIAA. (See 5-Hydroxyindol-3-vlacetic acid.)

Haematein, use of, in analysis, 3303.

Haematin, detection, 628.

Haemoglobin, determination of oxygen saturation of, apparatus for, 314. spectrophotometric, 939.

human, chromatographic behaviour of, 1644. separation, electrophoretic, 1643.

Hafnium, determination, 68.

in zirconium and zirconium alloys, by neutron activation analysis, 4050. separation from Zr, 4049.

use of solvent extraction in, 1104.

Hair-waving preparations, detection of thiols in, 1577.

Halides, alkyl, determination of equiv. wt. of, by ion exchange, 2682.

determination, 2623.

of alkali metals in, 404. polarographic, 2982.

potentiometric, 2196, 3336. identification, 2197.

Halogens, detection, in water, 2011.

determination, in organic compounds, 1541,

potentiometric, 547.

in petroleum products, amperometric, 1918. separation, chromatographic, 96.

Hard metal, analysis of, 3989.

Heavy water. (See Deuterium oxide.)

Helianthrone, polarographic behaviour of, 893.

Heliogen blue SBL, determination, potentiometric,

Heliotropin. (See Piperonal.)

Helium, determination, in natural gas, gas chromatographic, 2100.

mass spectrometric, 1113.

Heparin, determination, in tissue, 640.

n-Heptaldehyde, determination, nephelometric, 2236.

Heptoses, identification, paper chromatographic, 4175.

Heroin. (See Diamorphine.)

Hesperidin, determination, spectrophotometric, 699. Heteropoly acids, i.r. spectra of, 1236.

Heteropyrithiamine, determination, in presence of thiamine, spectrophotometric, 723.

Hexachlorocyclohexane, analysis of, review, 1015. γ-, determination, 1016.

by measurement of initial crystallisation point, 1722.

in air, i.r. spectrophotometric, 1381.

in mixtures of isomers of, cryoscopic, 4346. in presence of parathion, polarographic, 4347. of deposits of, 728.

separation and identification, paper chromatographic, 1014.

Hexahydro-1:3:5-trinitro-sym.-triazine, determination, 3421.

Hexamethylenediamine, determination of hexamethyleneimine in, 2250. Hexamethyleneimine, determination, in presence of

hexamethylenediamine, 2250. Hexane, isomers of, separation, gas - liquid chrom-

atographic, 2671. separation, chromatographic, 2675.

cycloHexane-1: 2-diol, determination, 123.

Hexanitrodiphenylamine, use of, in analysis, 3612. Hexanoic acid, n-, separation, paper chromatographic, 3023.

cycloHexanol, determination, in mixtures with cyclohexene, cyclohexanone and phenol, i.r. spectrophotometric, 3817.

with cyclohexanone, by use of dielectric constant, 886.

in toluene, gas chromatographic, 3564.

cycloHexanone, determination, in mixtures with cyclohexene, cyclohexanol and phenol, i.r. spectrophotometric, 3817.

with cyclohexanol, by use of dielectric constant, 886.

Hexemal. (See Cyclobarbitone.)

cycloHexene, determination, in mixtures with cyclohexanone, cyclohexanol and phenol, i.r. spectrophotometric, 3817.

Hexenes, determination, in petrol, gas chromatographic, 1915.

Hexitols, determination of periodate consumed during oxidation of, spectrophotometric, 862. identification, paper chromatographic, 1885.

Hexobarbitone, determination, 218, 688.

Hexocyclium methylsulphate, determination, spectrophotometric, 2769.

Hexoestrol, determination, potentiometric, 3143.

Hexogen. Hexahydro-1:3:5-trinitro-sym.-(See triazine.)

Hexoic acid. (See Hexanoic acid.)

Hexokinase, determination of activity of, 3846, 4271. Hexone. (See iso Butyl methyl ketone.)

Hexosamines, determination, in nervous tissue, 1618. in soil, 1393.

spectrophotometric, 630.

purification of, after electrophoresis, 191.

Hexoses. (See also individual hexoses.) determination, in serum proteins, spectrophotometric, 1640.

cycloHexylbenzene, separation from mixtures with dicyclohexyl and diphenyl, gas - liquid chromatographic, 2262.

Hexylene glycol. (See 2-Methylpentane-2: 4-diol.)

High-frequency titrations. (See Volumetric analysis.) Hippuric acid, determination, in mixtures with

benzoic acid, spectrophotometric, 1615. in urine, spectrophotometric, 1308. separation and identification, in plasma, paper

chromatographic, 3089.

Histamine, determination, elimination of interference by metal ions, 942.

in bacterial cultures, photometric, 2740. in canned fish, spectrophotometric, 980.

in plasma, 3848.

in presence of 5-hydroxytryptamine, 3850.

in serum, spectrophotometric, 3849.

separation and determination, in blood and tissue, reviews, 2731, 3092.

Histidine, determination, in bacterial cultures, photometric, 2740.

paper chromatographic, 1635. spectrophotometric, 2368.

separation from tryptophan, paper chromato-graphic, 2337.

on ion-exchange paper, 2338.

Ho-leaf oil, determination of camphor in, i.r. spectrophotometric, 914.

Homocysteine, analysis of, paper chromatographic, 1633.

determination, potentiometric, 208.

N-formyl deriv. of, determination, potentiometric, 208.

Homogeniser, for small-volume samples, 3557. Honey, analysis of sugars in, paper chromatographic,

1361. Hops, analysis of, comparison of methods for, 987.

conductimetric, 2397. determination of Ca and Mg in, 988.

of dimefox residues in, spectrophotometric, 2026.

of moisture in, comparison of methods for, 2791.

Hostacyclin. (See Tetracycline.) Human milk. (See Milk.)

Humidity. (See Moisture; Water.)

Humus, determination, in soil, 3932. Hyaluronic acid, detection, 1614.

Hyaluronidase, analysis of, electrophoretic and paper chromatographic, 3491.

bacterial, determinat on of activity of, spectrophotometric, 3490.

Hydrallazine, determination, 1351.

photometric, 3404.

Hydrastine, determination, polarographic, 221. Hydrastinine, determination, polarographic, 221.

Hydrazine, detection, 449, 1553. determination, gasometric, 3028.

identification, 3304.

organic deriv. of, determination, 2245, 2686, 4187.

1-Hydrazinophthalazine. (See Hydrallazine.) Hydrazo compounds, identification, paper chromato-

graphic, 889. Hydrazobenzene, separation and identification of

decomposition products of, 2273. Hydrocarbons. (See also individual compounds and

groups.)

analysis of, 2279.

gas - liquid chromatographic, 150. aromatic, colour reactions of, 2690.

determination of impurities in, 1263. fractionation of, with molecular-sieve adsor-

bents, 2261. identification, in air, 1705.

polycyclic, determination, in oysters collected in polluted water, spectrophotometric, 1004.

C₁ to C₄, analysis of, chromatographic, 2670. C₂ to C₅, determination, in air and engine exhausts, gas chromatographic, 4210.

Hydrocarbons—continued carcinogenic, separation, from biological material, chromatographic, 2263.

determination, in air, 553, mass spectrometric, 4325.

in drilling muds, apparatus for, 1725.

in nitrogen, 553.

in oxygen, 553, 554.

of aromatic content of, i.r. spectrophotometric, 2264

and olefin content of, fluorescent, 2278.

of density and mol. wt. of, 899.

of S and tetra-ethyl lead in, by "Bremsstrahlung," 1285.

gaseous, analysis of, apparatus for, automatic, 738. halogenated, determination, in air, 272.

identification and determination of tert.-butyl groups in, spectrophotometric, 1435.

liquid, determination of density of, 121. n-paraffin, i.r. spectra of, 3773, 4166.

polynuclear, detection, 1911. spectrophotometric, 4197.

saturated, C₅ to C₇, analysis of, gas chromatographic, effect of solvent on, 2280.

determination, gas chromatographic, 1914. separation from marine sediments, 1570. separation, gas chromatographic, 348.

selectivity of liquid substrates in, 1913. of alcohols, esters and ketones from, 2677.

thermal analysis of, 552. determination, unsaturated. of comparison methods for, 2674.

in petrol, mass spectrometric, 2701. of moisture in gases containing, 1879.

of thiophen and thiophen deriv. in presence of, 1909.

Hydrochloric acid, determination of Hg in, spectro-photometric, 2912.

Hydrocortisone. (See Cortisol.)

Hydrocyanic acid, determination, spectrophotometric, 2928.

Hydrofluoric acid, determination, in red fuming nitric acid, electrolytic, 4103. Hydrogen, active, determination, in insol. organic

compounds, 3763. determination, in metals, spectral-isotopic, 1110,

in mixtures with C1 to C4 hydrocarbons, gas chromatographic, 2670. with Cl, 4108.

in molybdenum, 484.

in natural gas, gas chromatographic, 2100.

in niobium, 484.

in organic compounds, 2224, 3008, 3009, 3359,

containing alkali and alkaline-earth metals,

simultaneously with C and an alkali metal, 1537.

and F, 1542. and N, 1244.

statistical evaluation of, 850.

in organoboron compounds, 1538.

in organofluorine compounds, 1243, 2661.

in organosilicon compounds containing S, 546. in titanium, 2154, 2946.

and titanium alloys, 2941.

simultaneously with C, 2943. in tungsten, 484.

isotope analysis of, mass spectrometric, 3583. ortho- and para-, analysis of mixtures of, 3992.

Hydrogen cyanide, determination, in air, 3175. potentiometric, continuous, apparatus for, 1751.

Hydrogen ion concentration. (See pH.) Hydrogen peroxide, determination, 2208.

in presence of acetaldehyde and formaldehyde, polarographic, 4177.

of aliphatic acids, polarographic, 1780. of peroxysulphuric and peroxydisulphuric acids, 1823.

in water, 3320. photometric, 23.

potentiometric, 1085.

Hydrogen sulphide, determination, in air and industrial wastes, 4074. in mixtures with CS2 and COS, 4075.

potentiometric, continuous, apparatus for, 1751.

Hydrogenation, apparatus for, 2438. technique for use with volatile compounds, 1029. Hydromorphone, separation, paper chromatographic,

Hydroperoxides, identification, 1823.

Hydroquinine, determination, oscillopolarographic, 2363.

Hydroquinone.

(See Quinol.)
(See Dithionite.) Hydrosulphite.

Hydroxamic acids, organic deriv. of, analysis of, paper chromatographic, 2252.

Hydroxyamphetamine, identification, paper chromatographic, 1682

p-Hydroxyanilinoacetic acid. (See p-Hydroxy-Nphenylglycine.)

5-Hydroxy-4-azaphenanthrene, use of, in analysis, 3617.

p-Hydroxybenzaldehyde, detection, in foodstuffs, paper chromatographic, 991.

p-Hydroxybenzoic acid, identification, paper chromatographic, 1373.

β-Hydroxybutyric acid, determination, in blood, 1947.

17-Hydroxycorticosteroids. (See Corticosteroids.) 17-Hydroxycorticosterone. (See Cortisol.)

Hydroxyephedrine, determination, spectrophotometric, 239.

2-Hydroxyethyl nicotinate, determination, polarographic, 243.
N-(β-Hydroxyethyl) phenylacetamide, determination,

in presence of ethanolamine and ethyl phenylacetate, i.r. spectrophotometric, 3817.

Hydroxyguanidine, determination, spectrophotometric, 4243.

Hydroxyhippuric acid, o- and m-, separation and identification, in plasma, paper chromatographic, 3089.

5-Hydroxyindolylacetic acid, determination, in urine, interference from phenothiazine deriv., 3448. review, 190.

8-Hydroxy-7-iodoquinoline-5-sulphonic acid. (See Ferron.

Hydroxykynurenine, determination, in urine, spectrophotometric, 1605.

Hydroxylamine, alkyl deriv. of, detection, 3386. determination, 450, 2162, 3679.

Hydroxymercuribenzoic acid, use of, in analysis, 4074.

N-4-Hydroxy-3-methoxybenzylidene-N-isonicotinoylhydrazine, determination, 3139.

5-Hydroxymethylfurfuraldehyde, determination, u.v. spectrophotometric, 126.

2-Hydroxy-1-naphthaldehyde, use of, in analysis, 379.

2-Hydroxy-3-naphthoic acid, and deriv. of, use of, in analysis, 1810.

2-Hydroxy-1-nitroso-3-naphthoic acid, separation of metal complexes of, paper chromatographic,

use of, in analysis, 528.

4-(2-Hydroxy-3-nitro-5-sulphophenylazo)-2-naphthol. (See Fast grey RA.)

p-Hydroxyphenylalkylamines, detection, 2380.

2-o-Hydroxyphenylbenzoxazole, use of, in analysis, 367, 3640. p-Hydroxyphenyl-β-gentiobioside, determination.

paper chromatographic, 283. p-Hydroxy-N-phenylglycine, determination, poten-

tiometric, 3858. 1-Hydroxy-1-phenylpropane, polarographic

haviour of, 3397 p-Hydroxyphenylpyruvic acid, separation, from urine,

paper chromatographic, 3447. Hydroxyproline, detection, paper chromatographic,

652

determination, in liver, 3460. in protein hydrolysates, polarographic, 651. paper chromatographic, 4255. spectrophotometric, 201.

p-Hydroxypropiophenone, determination, in urine, photometric, 622.

Hydroxypyruvic acid, determination, spectrophotometric, 3446.

8-Hydroxyquinaldine, use of, in analysis, 2140.

8-Hydroxyquinoline, co-pptn. of Cu in presence of, 1454.

deriv. of, use of, in analysis, 2139.

determination, in mechanical pulp, spectrophotometric, 161.

metal chelates of, determination of stability data of, potentiometric, 352. spectrophotometric study of, 1771, 3259.

molybdophosphate of, thermolysis of, 1837. reactions with rare-earth elements, 2560. thermal stability of, 339.

8-Hydroxyquinoline-5-sulphonic acid. determination, 3887.

Hydroxystearic acids, detection, paper chromatographic, 1257.

Hydroxysteroids. (See Corticosteroids; Steroids.)

o-Hydroxy-o'-sulphoazo compounds, reactions with Ba, Ca and Mg, 1790.

2-Hydroxy-m-toluic acid, study of complex with U,

6-Hydroxy-m-toluic acid, use of, in analysis, 2612. 5-Hydroxytryptamine, determination, 1621.

in tissue, spectrofluorimetric, 3850. review, 190. separation, electrophoretic, 1622.

Hydroxytyramine, determination, in urine, 632. separation, by ion exchange, 188.

Hydroxyzine, determination, by ion exchange, 1683. Hygrometer, based on i.r. absorption spectra, 3573. recording microwave, 3574.

Hyoscine, determination, 1661. in presence of morphine and ethylmorphine, paper chromatographic, 2361, 2362.

paper chromatographic, 4274. potentiometric, 3105, 3876. spectrophotometric, 3106, 3108.

Hyoscine hydrochloride, determination, by ion exchange, 1669.

separation, paper chromatographic, 1966. Hyoscyamine, determination, paper chromatographic, 4274.

potentiometric, 3105.

spectrophotometric, 3106, 3108, 3493.

Hypochlorite, determination of active Cl in, thermochemical, 1846. soln. of, determination of alkalinity of, 2983.

Ice-cream, determination of solids content of, 4311. Illuminating gas. (See Gas.) Ilmenite, analysis of, 519. Ilosvay's reagent, composition of, 4167.

Ilotycin. (See Erythromycin.)

Imidosulphate, detection, paper chromatographic,

Iminazolines, determination, spectrophotometric, 3509.

Iminazolylacetic acid, determination, in urine, paper chromatographic, 941.

Iminodisulphamide, detection, paper chromatographic, 4077.

1:2:3-Indanetrione. (See Ninhydrin.)

Indanthrene yellow G, use of, in analysis, 1832. Indicators. (See also individual compounds.)

acid - base, fluorescent, 1430. use of Fe³⁺ - Tiron complex as, 2079. of methylthymol blue as, 2081.

of phenolquinolinein as, 2080. luminescent, use of, in analysis, 3973, 3980. metallochromic, 2495, 2497, 2498, 3249.

applications of, 1756. properties of, 3593.

use of Fast grey RA as, 1757. of glycinenaphthol violet as, 3595.

of methylthymol blue as, 10. redox, for stannimetric titrations, 2500.

solvochromic and thermochromic, use of, in qual. organic analysis, 1535. use of catechol violet as, 3969.

of oo'-dihydroxyazo dyes as, 3970.

Indigo carmine, use of, as inductor, in cerimetric titrations, 342.

Indium, colour reactions with azo dyes, 1148. co-pptn. of, with sulphides, 1107. determination, amperometric, 2556.

electrolytic, 3653. fluorimetric, 2140. in cylindrite, 412.

in presence of PO43-, 72.

in rocks and minerals, radiochemical, 411. in sphalerite concentrates, amperometric, 4028.

in zinc concentrates, polarographic, 3654. of As in, 2954.

of Cd, Cu, Pb and Tl in, polarographic, 57. of Pb in, 4041.

photometric, 3652. polarographic, 410, 3286.

polarographic behaviour of, 4027. separation, from Cd, 1470.

radiochemical, 2542

Indole, determination, 4208. in coal tar fractions, spectrophotometric, 588. Indol-3-ylacetic acid, determination, coulometric,

1394. spectrofluorimetric, 3556. spectrophotometric, 3549.

Industrial wastes, analysis of, 3186. determination of acid-soluble SO42- in, 2420.

of Sb, Ba and Ca in, 2015. of C.O.D. of, 1710, 2014.

of CN- in, spectrophotometric, 3541. of dissolved O in, polarographic, 2016.

of Ge in, 3292.

of H2S and sulphides in, 4074.

of phenols in, 2290.

comparison of methods for, 1007. and sulphide in, A.B.C.M. - S.A.C. recom-

mended methods for, 281.

of PO,3- in, 2420. of radioactive Ca in, 3543. Industrial wastes, determination-continued

of radioactive Sr in, 1389, 3543.

of Ra in, 3542.

of synthetic detergents in, 2419.

of Sn in, spectrophotometric, 1006. of vinyl cyanide in, polarographic, 715.

refinery, determination of oil in, 2017. separation and determination of amino acids in, paper chromatographic, 2421.

Inert gases, analysis of, apparatus for, 737.

determination of CS2 in, gas chromatographic, 3660

Infra-red spectra. (See Spectra.)

Infra-red spectrophotometry.

metry, absorption.) (See Spectrophoto-

Inosine polyphosphates, separation, 643.

Inositol phosphates, separation and identification, paper chromatographic, 1310.

Insect fragments, identification, in food, microscopical, 1000.

Insect repellents, determination of 2:3-4:5-bis(△2butenylene) tetrahydrofurfural in milk, spectrophotometric, 2808. separation of 2:3-4:5-bis(\triangle^2 -butenylene)tetra-

hydrofurfural, paper chromatographic, 2808. Insecticides. (See Pesticides.)

Instrumentation, applications to process control of,

1725. review of industrial applications of, 2867.

Insulin, assay of, 3503.

bioassay of, 967 determination of amino acids in, radiochemical,

protamine zinc, determination of Zn in, paper chromatographic, 1969.

Intercaine. (See Amethocaine.)

Interferometer, for detection of fire-damp, 3220. Inulin, determination, in blood and urine, 3088. spectrophotometric, 625, 2233.

Invert sugar, determination, in sugar, 1688. Iodate, detection, 1445.

determination, in presence of BrO₂-, 4112. of Cu, 510.

of IO₄-, 2629, 4111. separation, by ion exchange, 3728. from I⁻ and IO₄-, by ion exchange, 3733.

Iodide. (See also Halides.) determination, 97, 1208, 2161.

> by ion exchange, 1849. by its catalytic action, study of, 507.

> in mixtures of halides, 2204.

in presence of Br-, 509, 2628.

of Cl-, 509.

potentiometric, 1515. of iodine, 98.

potentiometric, 1514.

in urine, spectrophotometric, 610. separation, from Br- and Cl-, chromatographic,

from IO₃- and IO₄-, by ion exchange, 3733.

Iodine. (See also Halogens.)

determination, 97, 1208. by use of 1311, 1784.

in organic compounds, 3768, 4158. containing other halogens, 548.

in presence of iodide, 98. potentiometric, 1514.

in saliva, 2313.

in serum, 1306, 2313, 3078. in tears, 1306. in water, 4330.

of ¹³¹I, in thyroid gland, radiochemical, 3431. review, 4110

spectrographic, 3732.

co-pptn. of, with MnO2, 480. detection, 1527, 2630.

amperometric, 827, 1443.

3648, 3740.

automatic, 9.

determination, 514, 516, 1212, 2208, 3021, 3589,

Iron, determination-continued Iodine continued protein-bound, determination, 1321. by X-ray fluorescence, 3342. in adipic acid, u.v. spectrophotometric, 1891. in plasma, 611. in serum, 1646. in alkali hydroxides, spectrophotometric, 1795. separation from Br and Cl, chromatographic, 96. in alloys, 2099. of 131 I, in blood serum, paper chromatographic, in aluminium and aluminium alloys, B.S.I. method for, 1146. in aluminium alloys, photometric, 56. in aluminosilicates, polarographic, 4025. of ¹³¹I-labelled compounds from ¹³¹I-, in urine, chromatographic, 609. Iodine value, determination, 2406, 2407. in bauxite, spectrographic, 409. Iodoform, determination, 4299. in biological material, spectrophotometric, 3823. in bismuth, photometric, 78. Iodomethane, detection, 880. 1-Iodo-3-methylpent-1-yn-3-ol, detection, 1352. spectrophotometric, 2212. Ion exchange, distribution of ions in columns, 3252. electrolytically controlled device for control of in bone marrow, 1594. in brine, spectrophotometric, 3739. in calamine, polarographic, 48. in cellulose, 166. flow-rates, 3561. electronic drop counter for, 3209. of metals from mixed solvents, 2096. in cereals, spectrophotometric, 3513. in chromium, spectrophotometric, 3742. review, 1767. of industrial applications of, 2867. in chromium-plating soln., 2634. in clay, spectrophotometric, 1520. in coal, spectrographic, 1573. separation of metals by, 781, 782. theory of gradient elution, 1047. use of, in analysis of metals, review, 1102. in cobalt concentrates, spectrographic, 2524. in copper, 790. in inorganic analysis, review, 3978. (See Chromatophotometric, 1124. Ion-exchange chromatography. and copper alloys, spectrophotometric, 517. graphy, ion-exchange.) Ion-exchange materials, membranes, use of, in prein copper concentrates, spectrographic, 2524. paration and separation by electrodialysis, 3950. in dust, 2515. in fuel ash, photometric, 3006. resins, use of, with non-aq. and mixed solvents, in gelatin, photometric, 3806. in glass, B.S.I. method for, 1238. in kaolin, spectrographic, 1217. review, 12. and membranes in, 1046. reviews, 1093, 2091. Ionium, determination, radiochemical, 4100. in limestone, photometric, 2905. Ionone, determination, polarographic and spectrospectrophotometric, 1520. in manganese, spectrophotometric, 3742. photometric, 2294. in mixtures with Ir and Pt, 1216. Ionophoresis. (See Electrophoresis.) Iproniazid, determination, spectrophotometric, 2383. in nickel, spectrophotometric, 3742. in nickel alloys, photometric, 2635. Iridium, detection, 3350. determination, 2655, 4144. in ores, 3341. in mixtures with Fe and Pt, 1216. u.v. spectrophotometric, 1845. in phosphoric acid, 2988. in nickel and silver, radiochemical, 3626. in plants, flame photometric, 2811. in presence of Pt, potentiometric, 2658. oscillopolarographic, 3005. spectrophotometric, 2024. oscillopolarographic behaviour of, 847. in plasma, spectrophotometric, 618. in potassium hydroxide, polarographic, 3738. in presence of Al, 2633. separation, electrochromatographic, 848, 1869, 1870. from Pd, Pt and Rh, electrochromatographic, spectrophotometric, 2555, 2632. of Cd or Zn, photometric, 2211. 1531. of W, spectrophotometric, 2213. of Cu, Fe, Pb and Ni from, by ion exchange, in rat liver, spectrographic, 182. in serum, spectrophotometric, 618, 3428, 3824. of Pt from, 849. in silicates, spectrographic, 1156. of Rh from, by ion exchange, 534. paper chromatographic, 4142. in silicon, spectrophotometric, 3649. (See also Ferric and Ferrous salts; Iron alloys; in sodium chloride or sodium hydroxide, polarographic, 3738. Steel.) analysis of, 1218, 1857, 3340. in soil, 1716. influence of As on, 3748. spectrophotometric, 2024. in tantalum pentoxide, spectrographic, 1442. review, 1220. cast, analysis of residues from, 3746. in titanium, spectrographic, 1859. in transmission oils, 151. spectrographic, 1435, 2639. of Al in, photometric, 4126. spectrophotometric, 521. of Sb in, polarographic, 108. of As in, B.S.I. standard for, 3345. determination of Al in, 1221. of Sb in, spectrophotometric, 1525. of Bi and Pb in, polarographic, 2215. spectrophotometric, 2645. of Bi in, polarographic, 3270. of Mg in, 2641. of Ti in, spectrophotometric, 2157. of C in, by proton irradiation, 2637. mass spectrometric, 523. concentration of soln. of, for analysis, electrolytic, of Co in, γ -spectrometric, 3347. of Cu in, polarographic, 3270. 2987.

of FeIII, 1852.

paper chromatographic, 2210. of Fe^{II}, coulometric, 1851.

in fuel ash and slags, 2636.

in rocks and minerals, 99.

Iron, determination-continued of FeO in, 3744. and Fe₂O₃ in, 3743. of gases in, 3744. sampling method for, 522. of impurities in, by ion exchange, 782. of Pb in, electrolytic, 2643. of Mg in, 4124. of MnO in, 3744. of Si in, photometric, 1522. spectrophotometric, 2994. of S in, spectrophotometric, 1825, 2646. of Sn in, photometric, 3344. polarographic, 108. of Ti in, spectrophotometric, 2157. of V in, spectrophotometric, 465. polarographic, 1519. spectrographic, 1856. spectrophotometric, 102, 515, 843, 1214, 1855, 2987 u.v. spectrophotometric, 1213, 1853, 1854. industrial analytical methods for, review, 2478. pig, analysis of residues from, 3746. screening with triethanolamine of, for complexometric titrations, 3632. separation, electrochromatographic, 3987. electrophoretic, 1108. from Al, 100, 101, 1429. by ion exchange, 3741. from Ir, Pd, Pt and Rh, by ion exchange, 2656. from Mg, 101. from Ti, electrolytic, 2579. from V, 1215. of Mg from, 2536. and determination, in fatty oils, by ion exchange, 1375. of Fe^{II} and Fe^{III}, paper chromatographic, 2209. solubility products of xanthates of, 1106. study of complexes with substituted phenylglyoximes, 1231. Iron alloys, determination of Al in, 1221, 4034 and Fe in Fe - Si, spectrophotometric, 3649. of As in, potentiometric, 1170. of B in, 844. of C and N in. 3678. of Cr in, spectrophotometric, 4085. of Co in, chromatographic, 111. of Fe in, u.v. spectrophotometric, 1854. of Pb in, polarographic, 2938. of Mg in, 1523. of Mn in, 4114. effect of Cr on, 110. in Fe - Mn, polarographic, 3736. potentiometric, 1210. of Mo in, spectrophotometric, 1838. of Ni in, spectrophotometric, 1528. of Nb, Ta and Ti in Fe - Nb - Ta, 3696. of P in, 2589. of Si in, 4033, 4034, 4035. of Ti in, photometric, 2156. spectrophotometric, 2157. of V in, 1174. of Zr in, radiochemical, 1787. phase analysis of Fe - Ni - Ti, effect of temp. on, 1858 Iron carbide, determination, in steel, photometric,

Iron ores, analysis of, polarographic, 1219.

of Zn in, by ion exchange, 3636.

of Ca and Mg in, 387, 2537.

of Ti in, photometric, 2156.

of S in, 2603.

determination of As in, photometric, 4067.

of Fe in, u.v. spectrophotometric, 1854.

Iron oxides. (See also Ferric and Ferrous oxides.) determination of O in, 471. distinction of Fe₃O₄ from NiO and Al₂O₃, by electron diffraction, 2631. Isodrin, determination, 1017. Isomaltose, separation, from gentiobiose, chromatographic, 4176. Isoniazid, 4-aminosalicylate of, determination, 3138. determination, 244, 3790. in biological fluids, spectrophotometric, 1598. in biological material, spectrophotometric, 621. in mixtures with pyrazinamide, 1975. spectrophotometric, 1974. in serum, spectrophotometric, 184. spectrophotometric, 3508. Isoprene, determination of unsaturation of, comparison of methods for, 3048. Isotopes, separation, chromatographic and electro-phoretic, review, 3203. Izafenin. (See Diacetyldiphenyloxindole.) J-acid, determination, in presence of y-acid, i.r. spectrophotometric, 592. Jam, analysis of, 2393. detection of plant elements in, microscopical, 992. Japanese mint oil, B.S.I. specification for, 3414. Jellies, analysis of, 2393. Juglone, determination, photometric, 3924. Kainic acid, determination, 3785. Kairoline. (See 1:2:3:4-Tetrahydro-1-methylquinoline.) Kalignost. (See Sodium tetraphenylboron.) Kaolin, determination of Fe and Ti in, spectrographic, 1217. of Li in, spectrographic, 785. Karathane, residues, determination, spectrophotometric, 3192. Karl Fischer reagent, stabilised, 3585. Kathesin. (See Bromocholine.) [See 2:2:2-Trichloro-1:1-di-(p-chlorophenyl)ethanol. Keratin, separation and determination of cysteic acid in, electrophoretic, 4258. Kerosine. (See Petroleum.) Keten, alkyl, determination, 3022. Keto acids, detection, paper chromatographic, 3091. determination, paper chromatographic, elimination of artefacts in, 1610. **Keto compounds.** (See also Oxo compounds.) 5-Ketoaldonic acids, detection, paper chromatographic, 2330. (See Steroids.) Ketogenic steroids. Ketohexoses, detection, paper chromatographic, **Ketones.** (See also *Carbonyl compounds*.) aliphatic, separation of 2:4-dinitrophenylhydrazones of, chromatographic, 873. detection, 3563. determination, in blood and urine, spectrophotometric, 1607.

i.r. spectrophotometric, 3015.

identification, as semicarbazones, 3382.

methyl, determination, by pH measurement,

potentiometric, 3771.

review, 4178.

2237.

Ketones-continued

separation, chromatographic, 4179.

from hydrocarbons, 2677.

gas chromatographic, selectivity of liquid substrates in, 1913. and identification, in fruit, chromatographic,

1754.

Ketosteroids. (See Steroids.) Khellin, determination, in fruits of Ammi visnaga, paper chromatographic, 1673.

Kjeldahl method. (See also Nitrogen.) digestion rack for, 2433.

Kojic acid, identification, 686.

Kurchi, assay of, 2369.

Kynurenic acid, determination, in urine, fluorimetric, 3843.

T.

Lacquers, determination of nitrocellulose in, spectrophotometric, 924.

Lactaldehyde, separation and determination, by ion exchange, 3381.

Lactic acid, determination, in blood, 626.

in skim milk powder, spectrophotometric, 2783. in wine, comparison of methods for, 702.

of H₂SO₄ in, review, 2239. purification of, for use in chromatography, 1087. separation, paper chromatographic, 3023.

and determination, paper chromatographic, 4180.

and identification, in plasma, paper chromatographic, 3089.

Lactoacridine, determination, 1977.

Lactones, aliphatic, separation, paper chromato-graphic, 2241.

Lactose, determination, in lactose hydrolysates, paper chromatographic, 867.

in milk, spectrophotometric, 2392. of H₂O in, 868.

separation, from melibiose, chromatographic,

Laevomycetin. (See Chloramphenicol.)

Laevulose. (See Fructose.)
Lanatoside C. (See Digilanide C.)

Lanolin. (See Wool wax.)

Lanthanides. (See Rare earths.) Lanthanum, determination, 2586.

chemical - spectrographic, 420. in presence of phosphates, 2924. of O in, spectrographic, 813.

separation from other cerite earths, 4031. of carrier-free 140La, 1474.

Lanthanum oxalate, determination of Nd, Pr and Sm in, spectrophotometric, 3657.

Lard, analysis of, spectrophotometric, 3153. determination of stability of, 3527.

rancid, detection of alkali refining of, by ketoacid determination, 3907.

Largactil. (See Chlorpromazine.)

Lauryl compounds. (See Dodecyl compounds.) Lavandin oil, B.S.I. specification for, 3414.

Lavender oil, determination of cineole in, i.r. spectrophotometric, 2713.

Lead, analysis of binary mixtures with Ba, Mg or Sr, potentiometric, 3257.

detection, paper chromatographic, 350, 2176. determination, 62, 1478, 1479, 1661, 1806, 2547,

and of corrosion products of, in cable sheaths, spectrographic, 64.

by isotope dilution, 2862. conductimetric, 1158.

Lead. determination-continued

in calamine, polarographic, 48. in cast iron, polarographic, 2215.

in copper, polarographic, 790. in copper alloys, electrolytic, 2153.

in frits and glazes, 3667.

in indium, 4041.

polarographic, 57. in iron, electrolytic, 2643.

in Pb - Sb - Sn alloys, 3295.

in metals and ferrous alloys, polarographic, 2038

in minerals, 802.

and rocks, polarographic, 1480, 2571. in monazite, spectrophotometric, 4040.

in ointments, 695.

in ores and concentrates, 3269,

in paint, electrolytic, 1481.

in poly(vinyl chloride), spectrophotometric, 2719.

in presence of Sb and Sn, by ion exchange, 3687. of Ba, potentiometric, 1442.

of Bi and Cu, polarographic, 2595.

of Fe^{III}, polarographic, 3622. in pyrites and marcasite, polarographic, 1160.

in soil, photometric, 1717 in steel, electrolytic, 2643.

spectrographic, 1524, 2989. in urine, spectrophotometric, 3429.

in water, polarographic, 2571. in zinc, polarographic, 1134.

spectrographic, 3294.

of Sb in, 461. spectrophotometric, 3688.

of As in, 1492. of Bi in, 437.

photometric, 2957.

spectrophotometric, 1818.

of Cu in, 437.

of isotopic composition of, mass spectrometric, 1159.

of Ag in, 437.

of Te in, spectrophotometric, 1834. of Sn in, spectrophotometric, 432.

paper chromatographic, 780. polarographic, 435.

potentiometric, 3666.

radiochemical, 436. spectrographic, 4039.

spectrophotometric, 2572.

extraction, from biological material, 608.

separation, electrochromatographic, 2892, 3987. electrophoretic, 2551. from Co, Cu and Fe, by ion exchange, 782.

from Ir, Pd, Pt and Rh, by ion exchange, 2656.

from molybdenum, nickel and tungsten alloys, by co-pptn., 2549. of As, Au, Mo, Pt, Re and Se from, 2207.

and identification, 798. Lead alloys, analysis of, 3990.

spectrographic, 1805, 2221. determination of Al in, photometric, 408.

of Bi in, spectrophotometric, 1818. of Pb in Pb - Sb - Sn, 3295.

of Te in, spectrophotometric, 1834. of Sn in, polarographic, 434.

Lead dioxide, determination, in minium, 803. Lead fluoroborate, determination of B and F in, 438.

of Pb in, 63.

Lead iodide, analysis of, 2894. Lead sulphate, determination, in accumulators, 2939. Lead sulphide, study of combustion of, for sulphur isotopic measurements, 2184.

Lead tetra-ethyl. (See Tetra-ethyl lead.)

Leaf tissue, analysis of, 2018.

Leaves, apparatus for measurement of absorption spectra of, 3216.

Lemons, determination of 2:2:2-trichloro-1:1-di-(p-chlorophenyl)ethanol residues in, 2028.

Leptazol, determination, refractometric, 2766. Leucomycin, identification, 1338.

Lidocaine. (See Lignocaine.)

Lignin, degradation products of, determination of mol. wt. of, 3190.

determination, in presence of syntans, 927. in pulp and wood, 165. in viscose, 2717.

Ligninsulphonates, analysis of, 1303.

Lignite, determination of ash in, 911. of S in, comparison of methods for, 3804.

Lignocaine, determination, 4290. Limestone, analysis of, 2905.

determination of Ca and Mg in, 41. of Fe in, spectrophotometric, 1520.

Linalol, determination, in coriander oil, 169.

Lindane. (See Hexachlorocyclohexane.)

Linoleic acid, determination, in fatty acid mixtures,

Linseed oil, determination of foots in, 266, 918, 3064. review, 919.

i.r. spectra of, 1299.

in paint films, determination of acid value of, 171. Lipase, determination of activity of, in serum, 213. in urine, 3872.

Lipids. (See also Phospholipids.)

analysis of, in serum, 646.

determination, on filter-paper, densitometric,

Lipoproteins, determination, on filter-paper, densitometric, 4247. separation, electrophoretic, comparison of media

for, 3471. serum, separation, electrophoretic, pre-staining

procedure for, 1645. starch-impregnated filter-paper for, 648.

Lissamine green, use of, in analysis, 2348.

Lithium, analysis of, spectrographic, 1781. detection, paper chromatographic, 4077. determination, flame photometric, 24.

in calcium, spectrographic, 2103.

in calcium hydroxide, spectrographic, 45. in copper, spectrographic, 1448.

in graphite, flame photometric, 2104.

in kaolin, spectrographic, 785. in minerals, chromatographic, 358.

in ores, flame spectrophotometric, 356.

in organic compounds, simultaneously with C and H, 1537.

in presence of K and Na, 2518. mass spectrometric, 1117.

of lithium carbide in, spectrophotometric, 1118. polarographic, 3605. separation, from Mg, chromatographic, 357.

Lithium hydride, determination, 3266.

Lithium nitride, determination of oxide content of,

Lithopone, determination of Ba and Zn in, 1462.

Liver, determination of cholesterol in, fluorimetric, 2351

of glucokinase activity in, 1656. of tocopherol and vitamin A in, 3169.

Local anaesthetics. (See Anaesthetics.)

Loretin. (See Ferron.)

Lubricants, medicinal, measurement of lubricant effect of, apparatus for, 976.

Lubricating grease, soap-thickened, analysis of, chromatographic, 1923.

Lubricating oil, analysis of, 152.

chromatographic, 1922.

detection of metals in, spectrographic, 541. determination of Ca in, 589.

of Fe in, 3049.

of metallic impurities in, spectrographic, 2705. of Zn in, 589.

spectrophotometric, 3407.

filtration of oxidised products of, apparatus for, 1030.

identification, i.r. spectrophotometric, 2282. transmission, determination of Fe in, 151.

Lucerne, determination of F- in, comparison of methods for, 836.

Lucigenin. (See 5:5'-Diacridyl dimethonitrate.)

Luminal. (See Phenobarbitone.)

Luminescence, use of, in analysis, 3980.

Luminol, use of, as chemiluminescent indicator, review, 3245.

Lutidine, identification, chromatographic, 148. 2:3-, 2:4-, 2:6- and 3:5-, separation, paper

chromatographic, 582. 2:6-, depression of b.p. of water by, 1565.

3:5-, determination, i.r. spectrophotometric, 2276.

Lycopene, determination, in grapefruit, spectrophotometric, 3188.

Lysine, determination, in proteins, 1636. spectrophotometric, 3857.

separation, on ion-exchange paper, 2338. Lysozyme, determination, in gastric juice, turbidimetric, 4245.

Macaroni, determination of egg in, comparison of methods for, 983.

Macromolecular substances. (See Polymers.)

Magnesia. (See Magnesium oxide.)

Magnesite, analysis of, 4149.

determination of Ca and Mg in, 2127.

Magnesium, analysis of binary mixtures with Co, Cu, Pb or Ni, potentiometric, 3257.

spectrographic, 38. detection, 381, 3604.

determination, 791, 2911, 3633.

flame spectrophotometric, 1456, 3277. in aluminium, spectrographic, 54.

spectrophotometric, 4010.

in aluminium alloys, 39, 382, 1458. spectrographic, 1797.

spectrophotometric, 2903, 4010.

in basic slag, 383.

in beer, hops and malt, 988.

in bismuth and Bi - U alloys, spectrographic, 3315.

in brine, spectrophotometric, 3627.

in cast iron, 2641.

in clay, spectrographic, 1460.

in dolomite, 41, 2127.

in dust, 2515. in fertilisers, 727.

in fuel ash, 3006.

in iron, 4124. in iron alloys, 1523.

in iron ore, 387, 2537. in limestone, 41, 2905.

in magnesite, 2127.

in magnesium alloys, 3629.

in Mg - Th alloys, 4053.

in plant material, 1711.

Magnesium, determination-continued in presence of Al, 3628.

of Ca, 2124.

thermogravimetric, 3630. of PO43-, 40.

in rat liver, spectrographic, 182. in rubber vulcanisates, 1304.

in serum, 2311. photometric, 603.

spectrophotometric, 1589.

in silicates, spectrographic, 1156. in soil, 725.

flame spectrophotometric, 724. elimination of interference in, 726.

in tissue, 180.

in titanium, 2535.

spectrographic, 1859. spectrophotometric, 3297.

in urine, 3076.

spectrophotometric, 1589.

in zinc alloys, spectrographic, 47. polarographic, 1457.

potentiometric, 2125. spectrophotometric, 1788.

reactions with oo'-dihydroxyazo and o-hydroxyo'-sulphoazo compounds, 1790.

separation from Ba, Ca and Sr, paper chromatographic, 2908. from Fe, 2536.

from Li, chromatographic, 357.

Magnesium acetate tetrahydrate, use of, as standard for EDTA titrations, 3968.

Magnesium alloys, analysis of Mg - Th, 4053.

spectrographic, 38. determination of Mg in, 3629.

Magnesium nitride, determination of oxide content

Magnesium oxide, determination, in silicates, 2126. in slag, 32.

of Mn in, photometric, 4113.

of O in, 471.

unhydrated, determination, in dolomitic lime, 1459.

Magnesium oxinate, determination, potentiometric,

Magnesium peroxide, determination, photometric, 23.

Magnet alloys, determination of Co in, amperometric, 3753.

Magnetite, analysis of, 519.

selective solution of, in presence of chalcopyrite,

Maize, determination of 6-methoxybenzoxazolone in, spectrophotometric, 3189.

identification, in ground cereals, 977.

Maize oil, determination of tocopherol in, spectrophotometric, 2000.

Malathion, analysis of, review, 1015.

determination, in animal products, 3895. separation and identification, paper chromato-

graphic, 1014.

Maleic acid, identification, in plant tissues, paper chromatographic, 4334.

polyesters of, determination of double-bond content of, polarographic, 1895.

Maleic hydrazide, determination, paper chromatographic, 3388. residues of, determination, in plant material,

spectrophotometric, 3927. Malic acid, determination, fluorimetric, reagent for, 4183.

in wine, comparison of methods for, 703. identification, in plant tissues, paper chromatographic 4334.

Malie acid-continued

separation, chromatographic, 558.

and identification, in plasma, paper chromatographic, 3089.

paper chromatographic, 3024.

Malonic acid, esters of, i.r. spectra of, 3384. separation, chromatographic, 4181.

and determination, paper chromatographic, 4180.

Malt, determination of α-amylase activity in, 2778. of Ca and Mg in, 988. of N in, 986.

of SO2 in, spectrophotometric, 3162. Maltose, determination of H2O in, 868.

separation and determination, in presence of glucose, 2386.

Maltulose, separation, from nigerose, chromatographic, 4176.

Maneb, residues of, determination, 2821.

Manganese, determination, 2559, 3735.

amperometric, 841. flame spectrophotometric, 2985.

in aluminium, B.S.I. method for, 1146. in aluminium alloys, B.S.I. method for, 1146. spectrographic, 1797.

in calamine, polarographic, 48. in chalk and magnesium oxide, photometric, 4113.

in copper alloys, polarographic, 1516.

in duralumin, 512 in fuel ash, 3006.

in glass, 1850.

in iron, influence of As on, 3748.

in iron alloys, 4114. effect of Cr on, 110. polarographic, 3736. potentiometric, 1210.

in plants, flame photometric, 2811.

in presence of Cr and Co, flame photometric, 2884. of Cu, 2523.

of Fe2+, polarographic, 3639. in rat liver, spectrographic, 182.

in silicates, spectrographic, 1156. in silicomanganese, 3737.

in soil, photometric, 1717. in steel, 512, 4114.

amperometric, 1443. coulometric, automatic, 4131. influence of As on, 3748.

spectrographic, 2989. in tissue, spectrophotometric, 1593.

in titanium, 2206.

of Fe in, spectrophotometric, 3742. of Ti in, spectrophotometric, 2157.

polarographic, 1209, 2205. potentiometric, 511.

spectrophotometric, 840. Manganese alloys, determination of Ti in Mn - Fe and Mn - Si, spectrophotometric, 2157.

Manganese dioxide, determination of SO42- in, polarographic, 2986.

Manganese ethylene-1:2-bisdithiocarbamate. (See Maneb.)

Manganese ores, determination of As in, photometric, 4067. of S in, 2603.

Mannitol hexanitrate, determination, 961.

Mannose, D-, methylated, separation, paper chromatographic, 3017.

separation, paper chromatographic, 866. determination, in paper pulp, paper chromatographic, 3417.

spectrophotometric, 3379.

Mannose, determination-continued paper chromatographic, 3086.

identification and determination, spectrophotometric, 3445.

separation and determination, in presence of mannosides, chromatographic, 869.

Mannosidostreptomycin, determination, in culture liquids and intermediates, 684.

Manometer, for Warburg apparatus, 298.

Marcasite, determination of Cu, Pb and Zn in, polarographic, 1160.

Mass spectrometer, ionisation chamber for, 2866. magnetic, 4412.

surface-ionisation, 1424.

use of, to determine D in hydrogen, 765. to study formation of CO from O, 812.

Mass spectrometry, analysis of aliphatic ethers by, 2477

applications, 2880.

of total ionisation principles to, 2865.

to clinical analysis, 335.

to isotope analysis, review, 3583.

of high-mol.-wt. compounds, low-voltage techniques for, 2864.

of organic halogen compounds, 3375.

review of industrial applications of, 2867.

standardisation of spectra by total ion intensity, 4410.

use of, in analysis of enriched stable isotopes, 4409.

of gases at low pressures, 4403.

of rhenium as electron emitter in, 4411.

of thoria - iridium as ionising electron source in, 4408.

Mayonnaise, determination of thickening agents in, 3521.

Measurement of liquids, electrolytically controlled device for, 3561.

transistor-operated device for, 3224

Meat, determination of citric acid in, 2240. of connective tissue protein in, spectrophotometric, 3152.

of moisture in, 2781.

of NO2-, NO3- and NaCl in, 2390.

γ-irradiated, determination of methanethiol in, spectrophotometric, 3515.

Meat extract, analysis of, 1691.

Meat products, detection of phosphates in, paper chromatographic, 4309. Meat-curing brine, determination of NO2- and

NO3- in, polarographic, 261. Meclozine, determination, by ion exchange, 1683.

Medical research, applications of analysis in, 2478.

Medrylamine. (See Diphenhydramine.)

Melamine, detection, 1936.

Melamine - formaldehyde resins. (See Resins, synthetic.)

Melibiose, determination, paper chromatographic,

separation, from lactose, chromatographic, 4176. Melilotin. (See Dihydrocoumarin.)

Mellitic acid, identification, 1272. Melting point, determination, 327.

apparatus for, automatic, 750. of organic compounds, apparatus for, 3955.

of purity by, 752. apparatus for, 753.

limitations of, 749. errors in determination of temp. - heat content curves, 751.

Menadione. (See Menaphthone.)

Menaphthone, determination, spectrophotometric,

Menaphthone sodium bisulphite, determination, photometric, 254.

Menhaden oil, analysis of fatty acids in, paper chromatographic, 2405.

Menthol, determination, 4287.

Mepacrine, detection, crystalloscopic, 1661. determination, in urine, by fluorescence, 185.

Meprobamate, determination, in biological fluids, spectrophotometric, 2317.

Mercaptans. (See Thiols.)

Mercapto groups, determination, amperometric, 551. 2-Mercaptobenziminazole, use of, in analysis, 2219. 2-Mercaptobenzothiazole, determination, in Captax and Altax, 1585. use of, in analysis, 2219.

2-Mercapto-4: 5-dimethylthiazole, use of, in analysis, 1532

2-Mercapto-1-methyliminazole, determination, potentiometric, 1976.

B-Mercaptopropionic acid, determination, potentiometric, 208.

6-Mercaptopurine, determination, 250, 251.

Mercaptothiamine, determination, potentiometric, 2410.

Mercupral, use of, in determination of Hg, 3281. Mercuric chloride, determination, 400. in ointments, 3501.

Mercuric nitrate, use of, in analysis, 3257.

Mercuric oxide, determination, 400.

Mercurous chloride, determination, 400. Mercury, co-pptn. of, with anthranilic acid, 2910.

detection, 2135. paper chromatographic, 350, 2176. determination, 49, 399, 400, 794, 1792, 2511,

2623, 2882, 3641, 3661. amperometric, 827.

in air. 274.

hydrochloric acid and sodium in brine, hydroxide, spectrophotometric, 2912.

in catalysts from vinyl chloride production, 2300.

in dyes, 160.

in food, 4305.

in ointments, 695.

in ores, spectrophotometric, 3281. in organic compounds, 1347.

amperometric, 4162.

in paper, spectrophotometric, 163.

in pharm. prep., 4305.

in urine, 3822.

paper chromatographic, 34.

radiochemical, 1109.

simultaneously with Cu, 1122.

spectrophotometric, 767, 795, 2550.

sampling and analysis of, 3995.

separation, electrochromatographic, 2892, 3987. electrophoretic, 2551

of Sb and Re from, 2207.

Mercury electrodes. (See Electrodes.)

Mercury, organic compounds of, separation, paper chromatographic, 3036.

Mesaconic acid, determination, polarographic, 562. Metal-finishing wastes. (See Industrial wastes.)

Metallochromic indicators. (See Indicators.) Metals, analysis of, by ion exchange, review, 1102. i.r. spectrophotometric, electrolytic prep. of

films for, 3217. anti-friction, analysis of, 3990.

complexes of, absorption spectra of, 2509. concentration of traces of, by co-pptn., 2510.

determination of gases in, apparatus for, 1068. of H in, spectral-isotopic, 1110, 3601. of trace impurities in, review, 2506.

micro-analysis of, apparatus for, 3195.

Metals—continued rare, industrial analytical methods for, review, 2478.

separation, adsorption-chromatographic methods for, review, 1103.

by extraction with acetylacetone, 1105.

of valency states of, paper chromatographic, 2021.

Metanil yellow, use of, as adsorption indicator, 1084. Metaphosphates, separation, electrophoretic, 2168. (See 2:6-Dihydroxy-4-methylpyrimidine.

Methacrylic acid, esters of, polarographic behaviour of, 595.

Methacrylonitrile, determination, polarographic, 567. Methadone, determination, 2764.

hydrochloride, separation, paper chromatographic,

reactions with alkaloidal reagents, 1681.

Methaemoglobin, determination, in blood, spectrophotometric, 627.

Methane, determination, gas chromatographic, 3774. Methanethiol, determination, in y-irradiated meat, spectrophotometric, 3515.

Methanol, determination, in ethanol and fruit brandies, 3776.

in forensic materials, photometric, 4239.

in presence of ethanol, water and other volatile substances, 3777.

in vinyl acetate, i.r. spectrophotometric, 1884. of water in, 563.

gas chromatographic, 3564. separation, chromatographic, 1883.

from mixtures with acetone and methyl acetate, gas chromatographic, 2228.

Methanthelinium bromide, determination, 1684.

Methionine, detection, paper chromatographic, 1632. determination, 2340.

identification, paper chromatographic, 1316. **Methoxy groups**, determination, in siloxane polymers,

i.r. spectrophotometric, 3069. 6-Methoxybenzoxazolone, determination, in maize, spectrophotometric, 3189.

Methoxychlor, determination, spectrophotometric, 4352.

Methoxyethylmercury chloride, determination, polarographic, 4196, 4300. and identification, 694.

separation, paper chromatographic, 3036.

Methoxyl groups, determination, 3013. photometric, 857.

Methoxyphenamine, determination, spectrophotometric, 1670.

Methoxyphenyl methyl ethers, separation, gas liquid chromatographic, 4201.

Methyl acetate, determination, in vinyl acetate, i.r. spectrophotometric, 1884.

separation from mixtures with acetone and methanol, gas chromatographic, 2228.

Methyl alcohol. (See Methanol.) Methyl borate, determination of hydroxylic impurities in, i.r. spectrophotometric, 1557.

soln. of, determination of dimethoxyborane in,

Methyl cyanide, determination of H.O in, 563, separation from mixtures with ethanol, ethylamine and water, gas chromatographic, 2228.

Methyl demeton, analysis of, review, 1015.

Methyl groups, determination, 1876.

Methyl hydrogen sulphate, detection, 880.

Methyl p-hydroxybenzoate, identification, paper chromatographic, 1373.

Methyl mannosides, separation and determination. chromatographic, 869.

Methyl methacrylate, copolymers of, determination of poly(ethyl esters) in, gas chromatographic, 2298

determination of acid amides in, 3063,

of aldehydes and ketones in, automatic, 9. of hydroperoxide in, spectrophotometric, 1297. of quinol in, polarographic, 1906.

Methyl salicylate, determination, 1560, 1676. Methyl vinyl ketone, determination, 2679.

Methyl violet, determination, amperometric, 3054. Methylamines, determination, in mixtures with ammonia, 3784.

Methylamphetamine, detection and determination, spectrophotometric, 1348.

identification, paper chromatographic, 1682.

Methylaniline, determination, in mixtures with aniline and dimethylaniline, spectrophotometric, 1271. identification, 1561.

Methylarsonic acid, use of, in pptn. of metals, 3600. Methylbenzethonium chloride, use of, in analysis,

Methylbenzoylcarbinol. (See 1-Benzoylethanol.) 2-Methylbutane, determination of unsaturation of, comparison of methods for, 3048.

2-Methylbut-2-ene, determination of unsaturation of, comparison of methods for, 3048.

Methylcellulose, identification, 2299.

Methylchlorosilanes, determination of Cl in, 3012. 20-Methylcholanthrene, separation, chromato-

graphic, 2263. 6-Methylcoumarin, separation and identification, paper chromatographic, 2792.

2-Methyl-4:6-dinitrophenol, analysis of, review, 1015.

Methyldi-n-octylamine, use of, as acid extractant, 1261.

Methylene blue, determination, amperometric, 3054. 4:4'-Methylenedianiline, determination, in mixtures with aniline, i.r. spectrophotometric, 4227.

Methylenecyclohexane, separation from isomers of methylcyclohexene, gas - liquid chromatographic, 2695.

Methylephedrine, determination, spectrophotometric, 1670.

Methylglycosides, determination of periodate consumed during oxidation of, spectrophotometric,

2-(1-Methylheptyl)-4:6-dinitrophenyl (See Karathane.) crotonate.

Methylcyclohexane, determination of toluene in, i.r. spectrophotometric, 4227.

Methylcyclohexanone, use of, for extraction of U, 3590

Methylcyclohexene, isomers of, separation, and from methylenecyclohexane, gas - liquid chromatographic, 2695.

Methylhydrazine, determination, gasometric, 3028. 2-Methyl-8-hydroxyquinoline, reaction with rareearth elements, 2560.

Methylmercury chloride, separation, paper chromatographic, 3036.

1-Methylnaphthalene, cracked, determination of naphthalene in, i.r. spectrophotometric, 3069.

2-Methyl-4-oxo-3-(cyclopent-2-enyl)cyclopent-2enyl chrysanthemum-monocarboxylate. Cyclethrin.)

Methylparathion. (See Parathion-methyl.)
2-Methylpentane-2:4-diol, determination, in urine, spectrophotometric, 3828.

of density and refractive index of aq. soln. of, 1252.

4-Methylpentan-2-one.

(See isoButvl methyl Milk-continued

2-Methylpenten-2-al, determination, in mixtures with propionaldehyde, i.r. spectrophotometric,

Methylphenobarbitone, determination, in binary mixtures with other barbiturates, u.v. spectrophotometric, 4289.

in presence of phenobarbitone, 3506.

5-Methyl-5-phenylbarbituric acid, determination, in binary mixtures with other barbiturates, u.v. spectrophotometric, 4289.

3-Methyl-1-phenylpyrazolone, use of, in analysis, 4059

Methylpyridines, analysis of mixtures of, i.r. spectrophotometric, 3069. i.r. spectra of, 1564.

Methylquinolines, i.r. spectra of, 1564.

a-Methylstyrene, determination, i.r. spectrophotometric, 3069.

Methyltestosterone, determination, i.r. spectrophotometric, 3126.

spectrophotometric, 2758.

u.v. spectrophotometric, 2355.

Methylthionine chloride. (See Methylene blue.)

4-Methylthio-1: 2-phenylenediamine hydrochloride,

use of, in analysis, 820.

Methylthiouracil, determination, 2384.

polarographic, 235. S-Methylthiuronium sulphate, use of, in analysis,

Methylthymol blue, preparation of, 771. use of, as indicator, 10, 2081.

3-Methyl-3-(2:2:2-trichloro-1-hydroxyethoxy)pent-1-yne, detection, 1352

O-(4-Methylumbelliferone) OO-diethyl phosphorothioate. (See Potasan.)

Metothyrin. (See 2-Mercapto-1-methyliminazole.) Mevalonate. (See βδ-Dihydroxy-β-methylvalerate.)

Mica, determination of Cs and Rb in, X-ray spectrographic, 786.

Microchemical analysis, inorganic, review, 1082. review of industrial applications of, 2867. ultra-, review, 3239.

Micro-organisms, separation of valency states of metals in, paper chromatographic, 2021.

Microscope, electron, use of, in analysis, 1100. Microscopy, chemical, review of industrial applications of, 2867.

X-ray shadow, detection of Th and U by, 1067. Milk, analysis of, preservation of samples for, 3517.

determination of acidity of, 3155. of added water in, from temp. of max. density,

1362. of alkali metals in, flame photometric, 2784.

of 160 Ba in, 3433.

of 2:3-4:5-bis(△2-butenylene)tetrahydrofurfural in, spectrophotometric, 2809. of Ca in, 981, 2782.

of chloral hydrate, trichloroacetic acid, trichloroethanol and urochloralic acid in, 183.

of citric acid in, 3154, 3156. of diazinon in, 2820. of lactose in, spectrophotometric, 2392.

of N in, comparison of methods for, 3898. of phosphatase activity in, 2786. centrifuge tube for, 3897.

of protein in, 1987.

of radioactivity of, 3540.

of solids in, with lactometer, 696.

of *Sr in, 2785, 3433, 4012. by ion exchange, 1129.

of vitamin B12 in, 3534.

freezing-point of, factors affecting, 697. variation of, influence of ration on, 3519.

human, determination of Cu in, paper chromatographic, 3614.

i.r. reflection spectra of, 698.

preserved, determination of acidity of, 262.

raw, rejection test for, 3518.

skim, determination of whey proteins in, electrophoretic, 1692. separation of organic acids in, chromatographic,

Milk fat, determination of unoxidised tocopherols in, 3520

Milk powder, determination of fat in, 1363.

i.r. reflection spectra of, 698.

skim, determination of lactic acid in, spectrophotometric, 2783.

Milk products, determination of thickening agents in. 3521.

Mineral oil. (See Petroleum.)

Mineral pulp, determination of xanthates in, polarographic, 885.

Mineral water. (See Water, natural.)

Minerals. (See also Rocks.)

analysis of, calculation of results of, 4148. application of geochemical methods to prospecting for, 2478.

calcium, determination of Mg in, spectrophotometric, 1788.

determination of Bi and Cu in, polarographic, 3270.

of CO2 and H2O in, simultaneously, 2101. of traces of Pb in, 802.

silicate, determination of Si in, photometric, 4037. Minium, determination of PbO₂ in, 803.

Mixing, of liquids, apparatus for, 3938. Moisture. (See also Water.)

control of, for evaluation of rust-preventive oils, 736.

determination, and differentiation from water of crystallisation, 1112.

in food, by i.r. technique, 2771. in sand, apparatus for, 2833.

Molasses, determination of ionisable ash in, by ion exchange, 1982.

of reducing sugars in, 3894. of total Br in, photometric, 2776.

Molecular weight, determination, 2036. cryoscopic, apparatus for, automatic, 3576. micro-ebulliometer for, 1070, 2845.

of amines, spectrophotometric, 3368. vaporimetric, B.S.I. specification for apparatus for, 3559.

Molecular-sieve adsorbents, use of, in analysis, 2261. Molybdate, separation, electrochromatographic, 3712

Molybdenite, determination of Mo in, potentiometric,

Molybdenum, analysis of, 3711.

determination, 1835, 1836, 1839, 2188, 2973, 2974. 4086, 4089.

amperometric, 3713.

coulometric, 3714. in columbite, spectrophotometric, 4088.

in iron alloys, spectrophotometric, 1838. in molybdenite, potentiometric, 487.

in Mo - U alloys, by monochromatic X-ray absorption, 1184. conductimetric, 1500.

in presence of Ni, amperometric, 3715. of W, spectrophotometric, 4090. in rat liver, spectrographic, 182.

in scheelite, spectrophotometric, 86.

Molybdenum, determination-continued in silicate rocks, spectrographic, 1769. in soil 3931

in steel, spectrographic, 2989.

in titanium alloys, 482. in tungsten ores, spectrophotometric, 481.

in zinc cyanide plating soln., photometric, 2189. of H, N and O in, 484

potentiometric, 2975, 4087.

spectrophotometric, 485, 2190, 2611, 2976, 3716

distribution of chloride complex of, in HCl - org. solvent system, 2610.

separation, from Al, Ca and Fe, by ion exchange, 1185.

from Pb. 2207.

from Re, by ion exchange, 483.

Molybdenum alloys, determination of Mo in Mo - U. by monochromatic X-ray absorption, 1184. conductimetric, 1500.

of Ti in Mo - Fe, spectrophotometric, 2157. separation of Bi, Cd, Pb and Zn from, by co-pptn.,

Molybdenum disulphide, determination of particle size of, by reflectivity, 3.

Monazite, determination of Pb in, spectrophotometric, 4040. of Th in, 3302.

separation and determination of rare-earth metals in, electrophoretic, 3289.

Monochloroacetic acid. (See Chloroacetic acid.) Monosaccharides. (See also individual compounds.) determination of periodate consumed during oxidation of, spectrophotometric, 862.

Montan wax, crude, analysis of, 1937. Montmorillonite, organic compounds of, use of, in gas chromatography, 348.

Morphine, determination, in blood and tissue, 3437. in opium, 2754.

spectrophotometric, 1666.

in urine, paper chromatographic, 2315. potentiometric, 3876.

separation, electrochromatographic, 1663. from opium, by ion exchange, 1667. paper chromatographic, 1328 and determination, by ion exchange, 3104.

Motor spirit. (See Petrol.)

Mucopolysaccharides, detection, 1614.

Musk ambrette, polarographic behaviour of, 591.

Musk ketone, polarographic behaviour of, 591.

Musk xylene, polarographic behaviour of, 591.

Mustard, separation and identification of Naphthol yellow in, 3906.

Mustard gas. [See Bis-(2-chloroethyl)sulphide.] Myokinase. (See Transphosphorylase.)

Nabam, X-ray powder diffraction patterns of, 970. Naphazoline, determination, spectrophotometric, 3509.

Naphtha. (See Petroleum.)

Naphthalene, deriv. of, identification, 3040. determination, in coke-oven gas, 1575.

in cracked 1-methylnaphthalene, i.r. spectrophotometric, 3069. in town gas, 2288, 2289.

Naphthaleneacetamide, determination. spectrofluorimetric, 3556.

Naphthaleneacetic acid, determination, spectrofluorimetric, 3556.

Naphthalene-disulphonic acids, -2:6- and -2:7-, determination, in nickel electrolytes, photometric, 2697.

Naphthaleneselenous acid, use of, in analysis, 2075. Naphthalenesulphonic acids, sodium salts of, determination, i.r. spectrophotometric, 2275,

1:2-Naphthaquinone-4-sulphonic acid, use of, in analysis, 880.

Naphthazarin, use of, in analysis, 1786.

Naphthenes, determination, in petrol, refracto-metric, 3406.

Naphthol, 1- and 2-, determination, 3042, 4287. in mixtures, spectrofluorimetric, 1912.

Naphthol yellow, separation and identification, in mustard, 3906.

2-Naphtholsulphonic acids, determination, 3793.

1-Naphthol-3:6:8-trisulphonic acid, determination, in presence of chromotropic acid, 147. separation from chromotropic acid, paper chromatographic, 3808.

1-Naphthylacetic acid, determination, u.v. spectrophotometric, 4343.

Naphthylamine, 1- and 2-, identification, 1561.

-, determination, 3042.

1-Naphthylamine-4-sulphonic acid, separation from I-naphthylamine-5-sulphonic acid. paper chromatographic, 3808.

2-Naphthylamine-1-sulphonic acid.

Naphthylaminesulphonic acids, use of, in analysis,

1-Naphthylamine-3:6:8-trisulphonic acid, separation, from 8-amino-1-naphthol-3:6-disulphonic acid, paper chromatographic, 3808.

1-Naphthylthiourea. (See Antu.)

Narcotine, determination, in opium, spectrophotometric, 1666.

in presence of papaverine, 2755. polarographic, 221. separation, paper chromatographic, 1328.

Natural gas. (See Gas.) Nemural. (See Acetarsol.)

Neodymium, absorption spectra of, 3288.

determination, chemical - spectrographic, 420. in lanthanum oxalate, spectrophotometric,

in presence of phosphates, 2924.

separation from Pr, by ion exchange, 2925. Neohesperidin, determination, spectrophotometric, 699

Neostigmine, determination, 2764.

Neothorin. (See Arsenazo.)

Neovitamin A. (See Vitamin A.)

Neptunium, determination of counting efficiency of 239Np. 94.

separation, from fission-product mixtures, by ion exchange, 1198

Neroli oil, B.S.I. specification for, 3414.

Nerve gases. (See Anticholinesterases.)

Neuraminic acids, determination, by ion exchange, 3841. spectrophotometric, 198.

Neutron absorptiometry, apparatus for, 1725.

Neutron activation analysis, cross-section graphs for,

review, 1441.

use of, in analysis of antimony, 2955. in determination of Be in ores, 2534.

of Hf in zirconium and zirconium alloys, 4050.

of ²³⁵U, 2979. Niacin. (See Nicotinic acid.)

Niacinamide. (See Nicotinamide.)

Nickel, analysis of, 2999. of binary mixtures with Ba, Mg or Sr, potentiometric, 3257. cathode, determination of Au, Ir, Pd and Pt in, radiochemical, 3626. concentration of traces of, by co-pptn., 2510. co-pptn. of, with Al(OH)3, 3000. detection, 1232, 1527. and determination, 3755. in biological materials, chromatographic, in minerals, chromatographic, 1775. determination, 530, 1444, 2586, 2998. amperometric, 1443. by X-ray fluorescence, 3342. conductimetric, 2997. in alloys, 2099. in aluminium alloys, 56. in blood, spectrophotometric, 935. in catalysts, 4136. in copper, 790. in Cu - Ni alloys, spectrophotometric, 2654. in electroplating soln., flame spectrophotometric, 3001. in fuel ash, 3006. in iron alloys, spectrophotometric, 1528. in nickel hydroxyfluoroborate electrolytes, 4141. in ores, spectrophotometric, 2653. in presence of Co, spectrophotometric, 2217. of Cu, 2116. photometric, 4140. polarographic, 4139. of NiO, 2651. of PO43-, 72. in soil, polarographic, 1717. in steel, photometric, 1226. spectrographic, 2989. in zirconium and zirconium alloys, spectro-photometric, 4137. of Cr in, spectrophotometric, 2609. of Cu in, 788. photometric, 3616, 3620. of Fe in, spectrophotometric, 3742. of O in, spectrographic, 813. of S in, 531. photometric, 112, 113, 1230. polarographic, 3756. reduction of interference from Zn, 2652. spectrographic, 4135. spectrophotometric, 1231, 2650. reaction with dimethylglyoxime, in presence of oxidising agents, 1442. separation from CrO42-, electrochromatographic, 1773. from Co, 1429. paper chromatographic, 3002. from Cu, by ion exchange, 1123. electrochromatographic, 1773. paper chromatographic, 3002. from Ir, Pd, Pt and Rh, by ion exchange, 2656. from Zn, paper chromatographic, 3002. of Co from, by ion exchange, 845. of Zn from, by ion exchange, 532. solubility products of xanthates of, 1106. Nickel alloys, analysis of, spectrographic, 3349, 4138. determination of Ba in, potentiometric, 390. of Cu in, 2526. of Fe in, photometric, 2635. of Ni in, spectrophotometric, 2654. phase analysis of Ni - Fe - Ti, effect of temp. on,

1858.

pptn., 2549.

Nickel carbonyl, determination, in air, 2001.

Nickel oxide, distinction from Fe₃O₄ and Al₂O₃, by electron diffraction, 2631. Nickel plating solutions. (See Electroplating solu-Nicotinamide, determination, in presence of nicotinic acid, spectrophotometric, 3172 in vitamin B complex, polarographic, 708. identification, 3587. Nicotine, determination, in tobacco, 1333. polarographic, 3497. separation, from tobacco root, paper chromato-graphic, 958. Nicotinic acid, detection, crystalloscopic, 1661. determination, 218. esters of, determination, polarographic, 242. identification, paper chromatographic, 3402. isoNicotinic acid, determination, 218. isoNicotinic acid hydrazide. (See Isoniazid.) Nicotinohydroxamic acids, use of, in analysis, 840. Nicotyrine, determination, in tobacco, 3113. Nigerose, separation, from maltulose, chromato-graphic, 4176. Nikethamide, detection, crystalloscopic, 1661. determination, refractometric, 1350. Ninhydrin, chromatographic detection of amino acids with, sensitivity of, 3854. reaction of, with straight-chain amino acids, 1631. use of, in analysis, 1630. Niobium, bibliography of analytical chemistry of, detection and determination, in minerals, chromatographic, 1775. determination, 811. in Nb - Fe - Ta alloys, 3696. in Nb - U alloys, 3262. in ores, spectrographic, 2599. in presence of Ti, 466. of As in, 2954. of H and N in, 484. of O in, 484, 1493. of Ta in, spectrophotometric, 2600, 2961. simultaneously with Ta, in steel, 4130. spectrophotometric, 3694. separation, 3695. from Sb, Sn and Ti, 1494. from Ta, 1442, 1494, 1821, 1822, 2181. from zirconium oxide, 4072. in analysis of hard metals, 1482. of Ti from, 1442. and determination, spectrophotometric, 3318. study of extraction of thiocyanate complexes of, 467 Niobium alloys, determination of Nb in Nb - Fe - Ta. 3696. in Nb - U. 3262. Niobium pentoxide, determination of Ta in, spectrographic, 468. Nipagin M. (See Methyl p-hydroxybenzoate.) Nitrate, detection, 451, 2587. determination, 2163. in HF - HNO₃ pickling liquor, 3308. in meal and meal products, spectrophotometric, 3893. in meat, 2390. in meat-curing brine, polarographic, 261. in presence of NO₂-, polarographic, 2164. in sea water, 3920. in soil, polarographic, 4339. in water, photometric, 1003. potentiometric, 2415. of alkali metals in, 404. separation of Bi, Cd, Pb and Zn from, by cosimultaneously with nitrite, 3307. spectrophotometric, 71. u.v. spectrophotometric, 1491.

Nitrates, organic, determination, potentiometric,

Nitric acid, aq. soln. of, density - composition tables for, B.S.I. revised standard for, 2035. determination of tetranitromethane in, potentio-

metric, 2684. red fuming, determination of HF in, electrolytic, 4103.

Nitric oxide, determination, in coke-oven gas, continuous, 2952.

in gases, 1811.

separation, gas chromatographic, 778.

and determination, gas chromatographic, 4057. Nitrides, determination of oxide content of, 3305.

Nitrite, detection, 1445.

determination, 70.

in fish meal, spectrophotometric, 2025. in HF - HNO3 pickling liquor, 3308.

in meat, 2390.

in meat-curing brine, polarographic, 261.

in presence of NO₃⁻, polarographic, 2164. of alkali metals in, 404. photometric, 4059. polarographic, 807.

potentiometric, 69.

simultaneously with nitrate, 3307. spectrophotometric, 1812, 2165.

Nitro compounds, aromatic, determination, 4205. determination, 1246, 3043.

Nitroacetophenone, determination, 2268.

Nitroaniline, o-, determination, 3043.

titration of, as acid, 1260.

Nitrobenzene, deriv. of, determination, 3790. determination of mono- and di-nitrothiophen in, spectrophotometric, 1567.

m-Nitrobenzoic acid, determination, in electrolyte for tin recovery, 3044.

Nitrocarboxylic acids, separation and identification, paper chromatographic, 2692.

Nitrocellulose, determination, 3421.

in lacquers, spectrophotometric, 924.

Nitroethane, detection, 879.

Nitrofurazone, determination, in feeding-stuffs, 3933. Nitrogen, analysis of mixtures with A and O. 2602. detection, in organic compounds, 1241, 4159. determination, apparatus for, 1726.

automatic, 1731.

in barley and malt, 986.

in coal, 907, 908.

in coke, 3802, 3803.

in iron alloys, 3678.

in molybdenum, 484.

in niobium, 484.

in organic compounds, 542, 543, 853, 1246, 1539, 2225, 2665, 3363, 3766, 3767.

simultaneously with C and H, 1244. statistical evaluation of, 850.

in organoboron compounds, 1538.

in proteins, 3465.

in pyridinium salts, 1908.

in silage, photometric, 3552.

in steel, 3678.

sources of error in, 2995. spectrophotometric, 525.

in titanium, 2154, 2944, 3678.

in titanium alloys, 2944.

in tungsten, 484.

mass spectrometric, methods of correction for, 2160.

of CO2 in, 553.

of hydrocarbons in, 553.

of water vapour in, by thermal conductivity measurement, 4055.

Nitrogen-continued

isotope analysis of, mass spectrometric, 3583, 3677

separation, gas chromatographic, 778.

and determination, gas chromatographic, 4057. Nitrogen compounds, aromatic, separation, chromatographic, 2272

detection, paper chromatographic, 2243.

Nitrogen dioxide, determination, gas chromatographic, 4058

in air, spectrophotometric, 2801.

Nitrogen mustards. [See Anticholinesterases; NN'-Di-(2-chloroethyl) methylamine.

Nitroglycerin, detection, 1940.

determination, 3421.

reduction of, in analysis of propellents, 928.

Nitroguanidine, detection, 1586.

determination of ammonium salts in presence of, potentiometric, 884.

Nitrocyclohexane, determination, 577.

Nitrometer, modification of, 1539.

Nitromethane, detection, 879, 880.

Nitronaphthylamines, use of, in analysis, 2135, 2933. Nitronaphthylaminesulphonic acids, use of, detection of Sn2+, 2568.

Nitroparaffins, detection, 2683.

Nitrophenol, m- and p-, separation, electrophoretic,

o-, determination, 3043.

p-, determination, in tissue, paper chromatographic, 2427.

separation and determination, in biological material, chromatographic, 3936.

2-p-Nitrophenylacetamide, determination, spectrophotometric, 4204. p-Nitrophenylacylamine. (See 2-p-Nitrophenylacet-

amide.) p-Nitrophenylazocatechol, use of, as indicator, 68.

p-Nitrophenyldiazoaminoazobenzene, use of, as indicator, 396.

4-Nitrosalicylic acids, determination, 3043.

Nitroso compounds, detection, 2274.

Nitrosobenzene, detection, 2274.

4-Nitrosodiphenylamine, use of, in analysis, 537.

2-Nitroso-1-naphthol-4-sulphonic acid, use of, in analysis, 2209.

p-Nitrosophenol, detection, 2274.
Nitrothiophosphoric esters, identification, 3937.

Nitrotoluene, determination, 3421 of p- in m-, potentiometric, 579.

identification, paper chromatographic, 888.

Nitrotoluidines, separation and identification, paper chromatographic, 1270.

Nitrous oxide, separation and determination, gas chromatographic, 4057.

γ-Nonanolactone, graphic, 2241. separation, paper chromato-

Noradrenaline, determination, in plasma, 1613.

fluorimetric, 2729, 3442. in urine, 631, 632.

fluorimetric, 4241. spectrofluorimetric, 2319.

fluorescence of ethylenediamine deriv. of, 1612. identification, paper chromatographic, 1682. separation, by ion exchange, 188.

Nordihydroguaiaretic acid, separation and identification, paper chromatographic, 995, 1995.

Norepinephrine. (See Noradrenaline.) Nornicotine, separation, from tobacco root, paper chromatographic, 958.

Novobiocin, spectrophotometric, determination, 1340.

Novocain. (See Procaine.)

Novolaks, determination of phenols and cresols in, paper chromatographic, 2301.

Nuclear magnetic resonance spectrometry. Spectrometry, nuclear magnetic resonance.)

Nucleic acids, determination, paper chromato-graphic, 3452.

refractometric, 206.

u.v. spectrophotometric, 3851. identification, in blood proteins, u.v. spectrophotometric, 2745.

Nucleoproteins, determination, refractometric, 206. Nucleosides, rotary dispersion values of, 2332.

Nucleotides, determination, review, 3451

phosphate, separation, chromatographic, 3450. separation, electrophoretic, 3852.

of adenine and inosine, 643.

and determination, paper chromatographic and electrophoretic, 2331.

Nutrient media, determination of reducing substances in, photometric, 3103.

(See also Polycaprolactam.) -610, determination, automatic, 9.

Nystatin, assay of, 2372.

OBIT. (See 1-n-Octyl-4-benzyl-5-iminotetrazolinium ditartrate monohydrate.)

Oats, identification, in ground cereals, 977.

Obsidian, analysis of, by ion exchange, 1871.

1-n-Octyl-4-benzyl-5-iminotetrazolinium ditartrate monohydrate, use of, in analysis, 2694. isoOctylhydrocupreine, determination,

polarographic, 2363. Oestradiol, 17β-, separation, chromatographic, 4264.

and determination, in tissue, 3863. determination, in blood, 955.

i.r. spectrophotometric, 3126. separation, paper chromatographic, 3862.

Oestriol, determination, in blood, 955. separation, chromatographic, 4264.

paper chromatographic, 3862. and determination, in tissue, 3863.

Oestrogens, detection, in urine, 3865. determination, in urine, 212.

review, 3474.

Oestrone, detection, 954.

determination, in blood, 955. separation, chromatographic, 4264.

paper chromatographic, 3862.

and determination, in tissue, 3863. (See Fatty oils; Fuel oil; Lubricating oil; Petroleum; Volatile oils.)

Oils, essential. (See Volatile oils.)

Oils, mineral. (See Petroleum.)

Oils, vegetable. (See Fatty oils.)

Oilseeds, determination of oil in, 2403.

Oil-shale, determination of CO2 in, comparison of methods for, 3411.

Ointments, determination of Pb, Hg and Zn in, 695. Oiticica oil, detection, in coating materials, 1583.

Oleandomycin, determination, in ointments, 3501. identification, 1338.

Olefins. (See Hydrocarbons.)

trans-isoOleic acids, determination, in fats, 3531.

Olive oil, detection, 3910.

of arachis oil in, validity of methods for, 4317. of tea-seed oil in, 2798.

determination of OO-diethyl S-isopropylcarbamylmethyl phosphorodithioate residues in, 4348.

Olive oil—continued

differentiation from sulphur olive oil, 707. evaluation of esterification products of, 4318. refined, limits of refractive index of, 2797.

Opium, analysis of, paper chromatographic and spectrophotometric, 1666.

determination of morphine in, 2754.

separation of morphine from, by ion exchange, 1667.

and determination of morphine in, by ion exchange, 3104.

Opium alkaloids, determination, spectrophotometric,

separation, paper chromatographic, 1328, 1329. Orange juice, detection and determination of nonionic surface-active agents in, 2394

Orange peel, identification and determination of diphenyl and thiourea in, 3522.

Oranges, determination of 2:2:2-trichloro-1:1-di-(p-chlorophenyl)ethanol residues in, 2028.

Ores, analysis of, spectrographic, 3760.

Organic acids. (See also Carboxylic acids; Hydroxy acids; Keto acids, etc.)

aliphatic, determination, in presence of H2O2, polarographic, 1780.

determination, i.r. spectrophotometric, 3015. of purity of standard, potentiometric, 3371. potentiometric, 3771.

halogenated, determination, paper chromatographic, 1894.

identification, by p-phenylazophenacyl esters of, paper chromatographic, 146.

in meat extracts, 1691.

and determination, in water, chromatographic, 2012.

non-volatile, separation and identification, paper chromatographic, 3024.

separation, chromatographic, review, 2680. in urine, chromatographic, 1611.

and determination, paper chromatographic, 4180. volatile, separation, paper chromatographic, 3023.

Organic bases, determination, potentiometric, 2251, 3250.

identification, 3875. reagent for, 3587.

titration of, conductimetric, 3372.

potentiometric, 4186.

Organic compounds, aromatic, benzylidene chloride test for, 2696.

14C- and T-labelled, analysis of, gas chromato-

graphic, 3373.

classification of, solvochromic and thermochromic indicator system for, 1535.

detection of N in, 4159.

of N- and O-containing groups in, 3772. of Si in, spectrographic, 4161.

determination of double bonds in, coulometric, 1250.

of unsaturation of, near-i.r. spectrophotometric, 1544.

identification of, 3369.

paper chromatographic, 3370.

soln. of salts of, i.r. spectrophotometric study of, 1435.

wet oxidation of, 1770.

Organic compounds, determination of elements in. (See also under individual elements.) 850, 851, 2224, 2225, 2226, 2660, 2661, 2662, 2663,

2664, 2665, 2667, 2666, 3008, 3009, 3010, 3011, 3357, 3358, 3359, 3764, 3765, 3766, 3767, 3768, 3769, 4157, 4158, 4162.

apparatus for, revised B.S.I. standard for, 3222. calculator for derivation of empirical formulae,

Oxygen, determination-continued Organic compounds, determination of elements in in titanium, 1483, 1824, 2154, 2946. compounds containing F, review, 1875. conductimetric, 2945. determination of C and H in, 4156. spectrographic, 2155. catalysts for, review, 4154. in titanium alloys, 1824. spectrographic, 2155. pyrophoric and hygroscopic compounds, 4155. Organic reagents, use of, in analysis, review, 1082. Ornithine, detection, electrophoretic, 1983. in titanium oxycarbides, by radiation measurements, 3699. Orthophosphate. (See Phosphate.) in tungsten, 484. Oscillographic polarography. (See Polarography.) in water, 1002. Osmium, detection, in presence of Ir, 3350. manometric, 470. of acetylene in, spectrophotometric, 554. determination, spectrophotometric, 1233, 1868. separation, 540. of CO2 in, 553, 554. electrochromatographic, 848, 1869. of hydrocarbons in, 553, 554. from Bi, Cd, Cu and Hg, electrophoretic, 3261. polarographic, 80. paper chromatographic, 4142. thermomagnetic, 120. and determination, spectrophotometric, 2657. dissolved, determination, in natural water, 3320. Ovalbumin, determination of amino acids in, radioamperometric, 277. polarographic, 3180. chemical, 3093. 3-Oxapentamethylene-1-triethylpotentiometric, 3179. Oxaditon. (See ammonium-5-ethyldimethylammonium isotope analysis of, mass spectrometric, 3583. liquid, determination of acetylene in, spectrophotometric, 4167. Oxalate, detection and determination, 1258. Oxalic acid, determination, 3762. separation, gas chromatographic, 778. study of reaction to form CO, mass spectrometric, coulometric, 4007. in presence of formic acid, 561. Oxygen, organic compounds of, containing S, i.r. spectrophotometric, 878 esters of, determination, 3025. spectra of, 1435. Oxyhaemoglobin, determination, in blood, spectroidentification, in plant tissues, paper chromatophotometric, 627. graphic, 4334. separation, chromatographic, 558, 4181. Oxystarch. (See Starch.) Oxytetracycline, assay of, 4284. and identification, in plasma, paper chromatodetermination, in binary mixtures with chlorgraphic, 3089. paper chromatographic, 3024. tetracycline or tetracycline, spectrophototitration of, potentiometric, 1893. metric, 4289. in body fluids, biological, 3082. Oxamide dioxime, use of, in analysis, 3756. paper chromatographic, 231. 3-Oxapentamethylene-1-triethylammonium-5spectrophotometric, 3502. ethyldimethylammonium ditartrate, Oxytocin, assay of, in vasopressin prep., 3504. mination, potentiometric, 2251. Oysters, collected in polluted water, determination "Oximeter," for determination of oxygen saturation of hydrocarbons in, spectrophotometric, 1004. of haemoglobin, 314. Oxine. (See 8-Hydroxyquinoline.) Oxirane compounds, i.r. spectra of, 3070. Oxo compounds. (See also Keto compounds.) 7-Oxocholesterol, determination, in wool fat, PAN. [See 1-(2-Pyridylazo)-2-naphthol.] spectrophotometric, 1980. PRD. (See 3:4-Dichlorotetrahydrothiophen 1:1α-Oxoglutaric acid, detection, in plasma, paper dioxide.) chromatographic, 3089. Paint. (See also Pigments.) paper chromatographic, 3091. analysis of raw materials, by dielectric constant Oxyalkylene groups, determination, in glycols and measurement, 1582. polyglycols, 2232. detection of elements and synthetic resins in, 1936. Oxycodone, separation, paper chromatographic, determination of acid value of linseed oil extracted 1328. from, 171. Oxygen, analysis of, apparatus for, 1725. of cellulose ethers and esters in, spectrophotoof mixtures with A and N, 2602. metric, 926. determination, continuous, 1179. of Pb in, electrolytic, 1481. electrometric, influence of condition of cathode of non-volatile matter in, 2305. on, 1078. of phthalic anhydride in, 923. driers for, analysis of, 920.

media for, determination of "hard resins" in, 922.

determination, 539, 1530, 2219, 2220, 2655, 2897,

of polyhydric alcohols in, 921.

and determination, 4145.

amperometric, 538, 3758.

4146.

Palladium, detection, in presence of Ir, 3350.

in Doré metal, spectrographic, 3004.

spectrophotometric, 535, 537, 4147.

in presence of Cu and Ni, 536.

oscillopolarographic, 3005.

radiochemical, 2530.

in nickel and silver, radiochemical, 3626.

in ores and slags, spectrographic, 2898.

in beryllium, 2902 in blood, 930, 931. polarographic, 3072. spectrophotometric, 932. in boiler water, apparatus for, 1020. in coal, 3765.

in gases, 2963. coulometric, continuous, 3698. in metals, spectrographic, 813. and oxides, 471. in molybdenum, 484. in niobium, 484, 1493.

in organic compounds, 1245, 3010, 3011, 3765. tensimetric, 852. in sodium and Na - K alloys, 3606.

Palladium-continued

oscillopolarographic behaviour of, 847.

polarographic behaviour of, 2142.

separation, electrochromatographic, 848, 1869,

from Ir, Pt and Rh, electrochromatographic,

from Pt, electrophoretic, 1108.

of Cu, Fe, Pb and Ni from, by ion exchange, 2656.

of Pt from, 849.

of Rh from, by ion exchange, 534.

paper chromatographic, 4142.

Panthenol, determination, in multivitamin preparations, 966.

Pantocaine. (See Amethocaine.)

Pantopon, separation of components of, paper chromatographic, 1329.

Pantothenic acid, determination, in multivitamin preparations, 966.

Pantothenyl alcohol. (See Panthenol.)

Papaveraldine, determination, polarographic, 3877. Papaveretum, separation and determination of morphine in, by ion exchange, 3104.

Papaverine, determination, in opium, spectrophotometric, 1666.

in presence of narcotine, spectrophotometric, 2755.

photographic, 1961.

polarographic, 221.

spectrophotometric, 2762.

separation, paper chromatographic, 1328. Paper, analysis of "black-liquor," review, 1932.

determination of Hg in, spectrophotometric, 163. of pentachlorophenol in, 164. of starch in, 4220.

pH value of aq. extracts of, B.S.I. standard for, 1929.

Paper chromatography. (See Chromatography, paper.)

Paper electrophoresis. (See Electrophoresis.)
Paper ionophoresis. (See Electrophoresis.)

Paper pulp, determination of lignin in, 165. of pentachlorophenol in, 164.

of permanganate value of, 2297. of sugars in, paper chromatographic, 3417. mechanical, determination of 8-hydroxyquinoline

in, spectrophotometric, 161. Paprika. (See Capsicum.) Paraffin. (See Petroleum.)

Paraffin hydrocarbons. (See Hydrocarbons.)

Paraffins, determination, in petrol, refractometric,

separation from cycloparaffins, chromatographic, 898.

Paraformaldehyde, B.S.I. standard for, 1888. Para-oxon, determination, in tissue, paper chromato-

graphic, 2427. Parathion, analysis of, review, 1015.

detection, in biological material, 1397.

determination, in air, 732. photometric, 3917.

spectrophotometric, 2413.

in presence of azobenzene, 2029.

of y-hexachlorocyclohexane, polarographic, 4347.

in tissue, paper chromatographic, 2427. of isomers and deriv. of, polarographic, 2429. identification, 3937.

in presence of sulphonamides, paper chromatographic, 2385.

separation and determination, material, chromatographic, 3936. and identification, paper chromatographic, 1014.

Parathion-methyl, detection, in presence of parathion, 2428

determination, in air, photometric, 3917.

Paredrine. (See Hydroxyamphetamine.)
Parsley seed oil, B.S.I. specification for, 3414.

Particle size, determination, by reflectivity, 3. radiochemical, 4.

Patchouli oil, B.S.I. specification for, 3414.

Patulin, detection and determination, 685.

Peach extract, synthetic, analysis of, paper chromato-graphic, 2241.

Peat waxes. (See Waxes.)

Pectic substances, separation and detection, paper chromatographic and electrophoretic, 2387.

Pectin, determination of Cu in, polarographic, 3150. equation for relationship between gel strength and pectin concn., 2777. identification, 2299.

Penicillin, benzathine, identification and determination of benzathine in, 964.

detection, 1661.

determination, 1661.

procaine, determination, in sesame oil, polarimetric, 4281. of procaine in, 4280.

Pentachlorophenol, analysis of, review, 1015.

detection and determination, spectrophotometric,

determination, in paper and pulp, 164.

Pentacyanoferrate complexes, use of, in analysis,

Pentaerythritol, determination, in alkyd resins, 921. Pentaerythritol tetranitrate, determination, 3421.

isoPentane. (See 2-Methylbutane.) Pentane-2: 4-dione, use of, in analysis, 131.

Pentan-2-ol, determination, in mixtures with bromopentanes, i.r. spectrophotometric, 3817.

Pentenes, determination, in petrol, gas chromatographic, 1915.

2:3-cycloPenteno-6-methylpyridine, separation and determination, in coal tar fractions, i.r. spectrophotometric, 575.

Pentitols, identification, paper chromatographic, 1885.

Pentobarbitone, detection, 1342.

determination, spectrophotometric, 2762.

Pentoksil." (See 2:6-Dihydroxy-5-hydroxymethyl-"Pentoksil."

4-methylpyrimidine.) Pentosans, determination, in wood, 720.

u.v. spectrophotometric, 126. Pentoses, determination, spectrophotometric, 125.

Pepper, green or Hungarian. (See Capsicum.)

Pepper oil, B.S.I. specification for, 3414. Peppermint, spirit of, assay of, nephelometric, 1356. Pepsin, determination, in gastric juice, radio-

chemical, 1654, 2753. of activity of, 957. Peptides, detection of phenylthiohydantoins pre-

pared from paper chromatographic, 3097. determination, in presence of free amino acids,

of end carboxyl groups in, 2737.

of N in, 3096.

spectrophotometric, 3464.

separation of deriv. of, by ion exchange, 2736. paper chromatographic, 2343.

Perchlorate, detection, 3339.

Perchloric acid, determination, in mixtures with acetic acid and acetic anhydride, 1927. use of graded oxidation potentials in wet ashing of organic matter, 1770

Perfumery materials, applications of gas chromatography to separation of, 3415.

Periodate, determination, in presence of IO₃-, 2629,

potentiometric, 3734.

separation from I- and IO3-, by ion exchange, 3733

Permanganate, reaction with As2O2, 3974.

Peroxidase, determination of activity of, in sweet corn, spectrophotometric, 3514.

Peroxide groups, determination, in organic compounds, 2227.

Peroxides, detection, 628.

determination, in bread and fats, 3527. of reaction rates of, 784.

identification, 1823.

metal, determination, photometric, 23.

organic, analysis of, chromatographic, 2676. reporting of, in fats, 2408.

Peroxy di-acids, identification, 1823.

Peroxyacetic acid, determination, in presence of H₂O₂, 1823. Peroxydisulphate,

separation, paper chromatographic, 1833.

Peroxydisulphuric acid, determination, in presence of peroxysulphuric acid and H2O2, 1823.

Peroxyphosphoric acid, determination, in presence of H2O2, 1823.

Peroxysulphuric acid, determination, in presence of peroxydisulphuric acid and H2O2, 1823.

Persulphate, detection, 1445. determination, 2186.

in water, 3320.

Pervitin. (See Methylamphetamine.)

Pesticides, analysis of, 3935.

review, 1569.

determination of Cl in, 3934. m-dinitrophenyl, determination, spectrophotometric, 4352

nitrothiophosphoric esters, identification, 3937. organophosphorus, detection, paper chromatographic, 730.

determination, in air, 732.

residues, analysis of, collection of samples for, 1721.

detection and determination, 2818.

separation and identification, paper chromatographic, 1014.

thiophosphate, detection, paper chromatographic, 2027.

Pethidine, determination, 2764. spectrophotometric, 2765.

reactions with alkaloidal reagents, 1681.

Petrol, determination of bromine value of olefins in, 2718

of dibromoethane and dichloroethane in, 3047. of naphthenes and paraffins in, refractometric, 3406.

of isoparaffins and normal paraffins in, mass spectrometric, 2702.

of olefins in, mass spectrometric, 2701.

of pentenes and hexenes in, gas chromatographic, 1915.

of S in, by "Bremsstrahlung," 1285.

of tetra-ethyl lead in, 906, 3047. B.S.I. method for, 1281. by "Bremsstrahlung," 1285.

flame photometric, 3046. polarographic, apparatus for, 1080. separation of bicycloparaffins in, 2703.

Petroleum, analysis of, 149, 2279.

gas chromatographic, industrial applications of, 2478.

review, 3797.

determination of aromatic compounds in, u.v. spectrophotometric, 3798.

Petroleum, determination-continued

of aromatic hydrocarbons in, by comparative dispersion, 585.

and olefin hydrocarbons in, by fluorescence, 2278.

of C and H in, 910.

of elementary S in, polarographic, 587.

of normal paraffins and normal olefins in, 584.

of organic disulphides in, 1920, 1921. sulphides in, polarographic, 902. sulphur compounds in, 1919.

of peroxide number of, potentiometric, 586. of pyrrolic N in, spectrophotometric, 2281.

of NaCl in, 1571.

of sulphide S in, i.r. spectrophotometric, 3799.

of S in, 901, 903, 904, 905.

by "Bremsstrahlung," 1285. of tetra-ethyl lead in, by "Bremsstrahlung," 1285.

of thiophens in, polarographic, 4212. of trace metals in, spectrographic, 2704.

fluorescence spectra of, 1435.

fractionation of, with molecular-sieve adsorbents,

light, purification for use in spectrophotometry, 769. light fractions of, separation of main hydrocarbon groups of, 2700.

separation of paraffins and cycloparaffins in, chromatographic, 898. of S compounds in, by liquid thermal diffusion,

1284

and determination of thiols in, gas chromatographic and coulometric, 2687. structure analysis of, 900.

viscous fractions of, evaluation of C-type composition of, 4214.

Petroleum gas oil. (See Fuel gas.)

Petroleum grease, determination of drop-point of, B.S.I. method for, 1286.

Petroleum products. (See also Fuel gas; Fuel oil; Gas, natural; Lubricating grease; Lubricating oil; Petrol.)

determination of acid and base numbers of, B.S.I. method for, 1282. of acids and basic nitrogen compounds in, 4211.

of closed flash-point of, B.S.I. method for, 1280. of halogens in, amperometric, 1918.

pH, determination, applications, 2484. in strongly acid or alkaline soln., 2852. of standard soln. in methanol, 3594. sources of error in, review, 772.

standards for use in temp. range 60° to 95°, 2078. use of Fe3+-Tiron complex as universal indicator for, 2079.

Pharmaceutical analysis. (See also Drugs.)

determination of composition of binary mixtures by fusion temp., 1680.

report of Russian conference on, 1661. review, 2478.

use of paper chromatography in, 216, 1327, 2359. of radiometric titrations in, 217.

Phemitone. (See Methylphenobarbitone.) Phenacetin, determination, 690, 3891.

chromatographic, 2761.

in binary pharm. mixtures, by fusion temp., 1680.

in mixtures with acetylsalicylic acid and caffeine, i.r. spectrophotometric, 1587. photometric, 1672.

spectrophotometric, 3132.

separation and identification, electrophoretic, 692. Phenazone, detection, paper chromatographic, 216.

determination, 1344, 3891.

spectrophotometric, 238.

Pheniramine, identification, 4292.

Phenobarbitone, determination, in binary mixtures, by fusion temp., 1680. with other barbiturates, u.v. spectrophoto-

metric, 4289.

separation and determination, in presence of diphenylhydantoin, chromatographic, 3131.

Phenol, analysis of vapour of, 3392.

determination, 3042. coulometric, 1265.

in air, spectrophotometric, 2412.

in 4-chlorophenol, i.r. spectrophotometric, 1587.

Phenol coefficient, determination, in germicides, polarographic, 4301.

Phenolic resins. (See Resins, synthetic.)

Phenolquinolinein, use of, as indicator, 2080. Phenols, detection, spectrophotometric, 4197.

determination, 3394. conductimetric, 1904.

in industrial wastes, 2290.

A.B.C.M. - S.A.C. recommended methods for, 281.

comparison of methods for, 1007. in mixtures with cyclohexene, cyclohexanone and cyclohexanol, i.r. spectrophotometric, 3817.

in presence of carboxylic acids, 570.

in volatile oils, potentiometric, 2711.

in water, comparison of methods for, 1007. potentiometric, 2691.

spectrophotometric, 3396.

identification and determination, in urine, 3449. monohydric, determination in technical products, 3395

o- and p-alkyl, i.r. absorption spectra of, 569. retention-volume data for gas - liquid chromatography, 3393.

separation, by ion exchange, 4198.

and identification, chromatographic, 1905. soln. of, determination of free alkali in, potentio-

metric, 3041 Phenothiazine, determination, polarographic, 252. Phenoxathiin, determination, u.v. spectrophoto-metric, 583.

Phenoxy groups, determination, in organosilicon compounds, photometric, 3014.

Phenylacetic acid, determination, spectrophotometric, 1267

1-Phenylacetylcarbinol. (See 1-Hydroxy-1-phenylpropane.

Phenylalanine, determination, in biological fluids, 3845.

in c.s.f. and urine, paper chromatographic, 3461.

in serum, paper chromatographic, 3095, 3461. Phenylamino-1:2:3-triazoles, u.v. spectra of, 3400. N-Phenylanthranilic acid, use of, in analysis, 1183. p-Phenylazophenacyl bromide, use of, in analysis, 559

p-Phenylazophenacyl esters, identification, paper chromatographic, 146.

2-Phenylbenzothiazole, use of, in analysis, 1532. Phenylbutazone, determination, 246.

Phenylchlorosilanes, determination of Cl in, 3012.

Phenylcinchoninic acid. (See Cinchophen.)

Phenylenediamine, o-, use of, in analysis, 526.

o-, m- and p-, identification, 1561.
p-, deriv. of, determination, in rubber, paper chromatographic, 1305.

Phenylephrine, determination, 1973. hydrochloride of, determination, 973. identification, paper chromatographic, 1682. Phenylglycinecarboxylic acids, use of, in analysis,

Phenylhydrazine, and deriv. of, determination, 3790. determination of water in, i.r. spectrophotometric.

Phenylmercury acetate, determination, polarographic, 4196, 4300.

polarographic behaviour of, 693. separation, paper chromatographic, 3036.

Phenylmercury chloride, separation, paper chromatographic, 3036.

Phenylnaphthylamines, determination, in rubber, paper chromatographic, 1305.

2-, determination, spectrophoto-Phenylphenol, metric, 138.

4-, determination, in mixtures with 4:4'-biphenol. i.r. spectrophotometric, 4227.

Phenylpyruvic acid, determination, in biological fluids, 3845. determination, in urine, spectrophotometric, 2322.

Phenylsemicarbazide, determination, 3891.

Phenylthiohydantoins, compounds with amino acids of, i.r. spectra of, 949.

detection, paper chromatographic, 3097.

Phenylthiosemicarbazide, use of, in analysis, 2959. Pholedrine, determination, 1973.

Phosphatase, determination of activity of, in milk, 2786. centrifuge tube for, 3897.

Phosphate. (See also Metaphosphates; Phosphoric acid; Phosphorus; Polyphosphates; Pyrophosbhates.

determination, in bauxite, 1168.

in calcium superphosphate, 3681.

in dust, 2515.

in fertilisers, 1719, 1720. in soil, purification of decolorising charcoal for,

1018 in uranium, 4062.

ortho-, detection, 808. soluble, determination of pyrophosphate in, spectrophotometric, 1813. separation from F-, 2169.

Phosphate esters. (See Phosphoric acid esters.) Phosphates, analysis of mixtures of, by ion exchange,

detection, in meat products, paper chromatographic, 4309.

determination, in sausages, paper chromatographic, 2391. of SO42- in, 3703.

separation, chromatographic, 3450.

water-sol. inorganic, separation, paper chromatographic, 2590.

Phosphates, condensed. (See Polyphosphates.) Phosphatides, acetyl, separation from cerebrosides and gangliosides, paper chromatographic, 2334. determination, in serum, i.r. spectrophotometric,

identification, paper chromatographic, 4249.

separation, in plants, 2422.

paper chromatographic, 2334. Phosphating solutions, determination of NO3- in,

Phosphine, determination, in air, 1380.

Phosphocreatine. (See Creatine phosphate.)

Phospholipids, determination, in serum, spectrophotometric, 4248.

of amino N in, spectrophotometric, 196. separation, paper chromatographic, 197.

Phosphoric acid, determination of Fe in, 2988.

Phosphoric acid esters, detection, paper chromatographic, 2258

separation, electrophoretic and paper chromatographic, 642.

Phosphorus, determination, 3309, 4060, 4061.

coulometric, 3714.

in basic slag, 2166. in coal and coke, comparison of methods for, 2287.

in feeding-stuffs, spectrophotometric, 2815.

in ferrophosphorus, 2589.

in fuel ash, photometric, 3006.

in germanium oxide, spectrophotometric, 2932.

in industrial wastes, 2420.

in iron, influence of As on, 3748.

in lipids, 948.

in natural water, spectrophotometric, 2805, 3183.

in organic compounds, 2226.

photometric, 855.

in organofluorine compounds, 1543.

in polyethylene terephthalate, spectrophotometric, 4221.

in serum, spectrophotometric, 4248. in soil, 2813, 4340.

polarographic, 4339. in steel, 2166, 4129.

influence of As on, 3748. photometric, 1224, 1226, 2644.

spectrographic, 3680. in titanium dioxide, spectrographic, 2581. spectrophotometric, 2588.

u.v. spectrophotometric, 2167 Phosphorus, organic compounds of, determination, spectrophotometric, 890.

Phosphoserine, determination, by ion exchange, 657. Phosphothreonine, determination, by ion exchange,

Photographic materials, determination of Ca and Ag in, 2540.

Photometer, flame. (See also Spectrophotometer, flame.

apparatus and applications, 1051. with Li as internal standard, 3951

Photometric methods, reviews, 1082, 1725.

Photometry, flame, correction of interference effects in, 3219.

of flammable gases, apparatus for, 315. use of perchloryl fluoride as excitation source in,

Photonometric titrations. (See Volumetric analysis.) Phthalate esters, determination, in propellents, 929. spectrophotometric, 887.

Phthalein complexone, reactions with alkaline-earth metals, 1790.

use of, in analysis, 3588.

Phthalic acid, esters of, determination, polarographic, 141.

separation of adipic and sebacic acids from, chromatographic, 140. paper chromatographic, 4202.

isoPhthalic acid, determination, in presence of terephthalic acid, paper chromatographic, 2692. separation, paper chromatographic, 4202.

Phthalic anhydride, determination, in paint, 923. Phthalocyanines, with different central metal atoms, i.r. spectra of, 1435.

Phthalonitrile, determination, polarographic, 567. Phthalylsulphathiazole, determination, 218.

separation and identification, electrophoretic, 692. Phthivazid. (See Acetaldehyde isonicotinoylhydr-

Phylloerythrin, determination, in blood, spectrophotometric, 3832.

Physico-chemical analysis, review, 1082.

Phytadiene, determination, 1010. Phytol, determination, 1010, 4336.

i.r. spectrophotometric study of, 721.

Picoline, 2-, separation from pyridine, paper chromatographic, 581.

2- and 3-, separation, paper chromatographic, 582. 2-, 3- and 4-, depressions of b.p. of water by, 1565. determination, i.r. spectrophotometric, 2276. identification, chromatographic, 148.

Picrates, of amines, data for, 883.

Picric acid, determination, 218. Picrite. (See Nitroguanidine.)

Pig iron. (See Iron.)

Pigments. (See also Paint.)

determination of Cu in, photometric, 2117. of Zn in, 1133.

Pilocarpine, determination, polarographic, 221. Pindone, separation and identification, paper chromatographic, 2810.

Piperazine, detection, and of 2:5 dimethylpiperazine in mixtures, 1276.

determination, in feeding-stuffs, 2817.

in presence of hexamine, spectrophotometric, 3879.

photometric, 3140.

1: 4-disubstituted, determination, potentiometric, 1277

2-Piperidinomethylcyclohexanone, analysis of, 3796. Piperine, polarographic behaviour of, 705.

Piperonal, determination, photometric, 2235. polarographic, 2714.

separation, paper chromatographic, 3052.

Pipette, micro-, for remote handling operations, 1019.

for soln. in volatile solvents, 2435. Pitch, determination of ash in, 157. of C and H in, 910.

Pitchblende, separation of Pu from, 3727. Pival. (See Pindone.)

2-Pivaloylindane-1: 3-dione. (See Pindone.) Plant tissue, analysis of, spectrographic, 4332.

determination of carotenoids in, spectrophotometric, 1616.

of digitoxin in, 3081.

identification of non-volatile organic acids in, paper chromatographic, 4334. separation and identification of substituted

cinnamic acids in, paper chromatographic, 1011.

Plant-growth regulating substances, determination, coulometric, 1394.

Plants, determination of NH₃ in, in presence of tannic substances, 3547.

of asparagine and glutamine in, spectrophotometric, 4333.

of 140 Ba and 90 Sr in, radiochemical, 3433.

of citric acid in, 2240.

of Fe in, spectrophotometric, 2024.

of nutrient elements in, 3545.

of organic phosphoric acid compounds in, 2422. of K and Na in, flame photometric, 286.

of Si in, spectrophotometric, 3546.

loss of dry matter during grinding of samples, 3544. separation of trace elements in, 2020.

Plasma. (See Blood plasma.)

Plasmocorinth B, use of, in analysis, 3297.

(See also Polymers; Resins, synthetic, and individual substances.)

fluorocarbon, determination of Cl and F in, 4224. industrial analytical methods for, review, 2478. methods of testing, B.S.I. standard for, 4223.

Plating solutions. (See Electroplating solutions.)

Platinum, detection, in presence of Ir, 3350. determination, 2655. in alloys, 114. in mixtures with Ir and Fe, 1216. in nickel and silver, radiochemical, 3626. in ores and slags, spectrographic, 2898. in plutonium, spectrophotometric, 3351. in presence of Ir, potentiometric, 2658. in U - Zr alloys, 1234. of Au in, 378. oscillopolarographic behaviour of, 847. separation, electrochromatographic, 848, 1869, from Ir, Pd and Rh, 849. electrochromatographic, 1531. from Pb, 2207. from Pd, electrophoretic, 1108. of Cu, Fe, Pb and Ni from, by ion exchange, 2656. of Rh from, by ion exchange, 534. paper chromatographic, 4142. and determination, photometric, 2657. Platinum alloys, analysis of Pt - U. 1235. determination of Pt in, 114. Platinum group metals, separation and determina-tion, 1532. Plutonium, analytical chemistry of, 1509. compounds, thermogravimetry of, 93. detection, by irradiation, 92. determination, by co-pptn. with LaF₃, 1511. coulometric, 499, 832. in presence of Al, 1199. of Ce in, spectrophotometric, 421. of gases in, 1101. of Pt and Rh in, spectrophotometric, 3351. of Zr in, by ion exchange and spectrography, potentiometric, 3333. spectrographic, 1200. spectrophotometric, 2195. X-ray spectrometric, 2622. emission and absorption spectra of, 3726. extraction from HCl soln., 3332. isotopic, analysis of, mass spectrometric, correction for oxygen isotopes in, 833. HNO, soln. of, study of, spectrophotometric, 834. separation, from fission-product mixtures, by ion exchange, 1198.

from pitchblende, 3727 and determination, 1510. soln. of, apparatus for prep. and analysis of, 1028.

Plutonium alloys, determination of Nb in, spectrophotometric, 3318.

of Ta in, spectrophotometric, 810. Plutonium hexafluoride, determination, ionisation chamber for, 3582.

pM indicators. (See Indicators, metallochromic.) Polarimeter, automatic recording, 3953. high-precision, photo-electric, 2843.

use of photo-electric colorimeter as, 4375. Polarimetry, differential, determination of metals by,

Polarocoulometry, use of, to determine concn., 762.

Polarograph, direct recording, 3227. reduction of series resistance effect in, 332. square-wave, 2850.

Polarography. (See also Electrodes.)

use of, for potentiometric pH determinations,

accuracy of results, 2879. at very negative potentials, 3578. cell for continuous analysis of ion exchange eluents, 761.

Polarography-continued derivative, apparatus for, 3577. use of KMnO₄ - Br - system in, 1209. differential, with dropping-mercury electrode, electronic switch for, 3230. in anhyd. acetic acid, 1079. mercury-pool electrode for, 3229. of inorganic compounds, review, 18. of metal ions, in fused LiCl - KCl eutectic, 4385. of small amounts of flowing soln., method for, 3960 oscillographic, review, 1096, 3982. use of, in micro-analysis, 3235. reviews, 1438, 3254. of industrial applications of, 2478, 2867. single-drop, technique of, 1081. square-wave, applications, 760. review, 2878, 3237. study of organic adsorption - desorption waves in, 1416. theory of, 3255. and technique of, 1081. use of twin electrodes in, 3228.

standardisation procedure for, 1414.

technique for, using superimposed a.c. squarewave potential, 1415. use of -onium compounds as max, suppressors in

1095. rotated dropping-mercury electrode in, 3232, 3233.

voltammetry at controlled current, automatic recording, 1417.

with a.c., reviews, 1439, 3234. with dropping-mercury electrode, current-scanning device for, 3236.

with hanging mercury-drop electrode, applications to determination of small concn. of ions, 3231.

(See Volumetric analysis.) Polarometric titrations. Polishes, analysis of, 3065. emulsion, analysis of, i.r. spectrophotometric, 1938.

Polonium, determination of 210 Po in blood, faeces and urine, 3434.

Poly(acrylic acid), identification, 2299. Polyalkylene glycols, determination of oxyalkylene groups in, 2232.

ethers of, separation, chromatographic, 4171. Polyamides. (See also Nylon.) determination, in fibre mixtures, 3058. Polyisobutylene, determination, in rubber, 2307.

Polycaprolactam. (See also Nylon.) titration of end-groups of, 594.

Polycyclic compounds, aromatic, separation, chromatographic, 2263 heterocyclic, separation, chromatographic, 2263.

Polyester resins. (See Resins, synthetic.) Polyesters, determination of carboxyl groups in, potentiometric, 596.

Polyethylene glycols, detection and determination, in orange juice, 2394.

esters of, analysis of, 1898. determination, spectrophotometric, 2780. Polyethylene terephthalate, determination of P in,

spectrophotometric, 4221. Polyethyleneamines, determination, in mixtures with ethylenediamine, 3027

Polyhexamethylene adipamide. (See Nylon.) Polyhexamethylenediamine sebacamide. Nylon.)

Polymers. (See also Copolymers: Fibres: Plastics: Resins, synthetic, and individual substances.) detection of caprolactam in, 170. determination of bromine value of, 2718.

of ε-caprolactam in, 917. of Cl and N in, automatic, 9. Polymers-continued .

N-methoxymethyl-e-caprolactam, pptn. titration of. 2722.

separation of high-mol.-wt. substances, review, 2478. siloxane, determination of methoxy groups in,

i.r. spectrophotometric, 3069. soln. of, determination of mol.-wt. distribution of, 3811.

of viscosity at high temp., apparatus for, 3566

nucleotide phosphorylase, determination of activity of, 3846. Polynucleotide

Polyoxyethylenes. (See Polyethylene glycols.)

Polypeptides. (See Peptides.)

Polyphenols, characterisation, in fruit, u.v. spectrophotometric, 1367.

Polyphenyls, cryst., i.r. spectra of, 4200.

isomeric, separation, chromatographic, 4199. mass spectra and relative sensitivities of, 3794.

Polyphosphates. (See also individual compounds.) analysis of, 452.

of mixtures of, by ion exchange, 74. separation, electrophoretic, 2168.

paper chromatographic, 2170. and determination, paper chromatographic, 2171.

Polysaccharides, methylation of, 870.

Polystyrene, determination, in synthetic resins, i.r. spectrophotometric, 599.

of butyl stearate in, i.r. spectrophotometric, 1587

methods of testing, B.S.I. standard for, 4223. Polystyrene resins. (See Resins, synthetic.) Poly(vinyl acetal) resins. (See Resins, synthetic.)

Poly(vinyl alcohol), identification, 2299. Poly(vinyl chloride), determination of Cl- in, 3061. of Pb in, spectrophotometric, 2719.

i.r. spectra of, 3812. Poly(vinyl cyanide), determination of N in, 1296. Poly(vinyl methyl ether), identification, 2299. Pontachrome blue black R, use of, in analysis, 2554. Porphobilinogen, detection and determination, in

urine, 1606. Porphyrins, separation and determination, in urine, electrophoretic, 3833.

Portland cement. (See Cement, Portland.)

Potasan, determination, in air, 732. spectrofluorimetric, 3556.

Potassium. (See also Alkali metals.) detection, 1442, 3612.

paper chromatographic, 4077.

determination, 26, 28, 361, 1450, 3610, 3611. by ion exchange, 3609.

flame photometric, 24. influence of Na on, 1435.

flame spectrophotometric, 3607.

in bismuth and Bi - U alloys, spectrographic, 3315.

in calcium salts, flame photometric, 44.

in dunite, radiochemical, 1449.

in fertilisers, 27.

by ion exchange, 4342. flame photometric, 2814.

in fuel ash, 3006.

in glass, B.S.I. method for, 1238. in graphite, flame photometric, 2104.

in minerals, spectrographic, 2519. in organic compounds, simultaneously with C and H, 1537.

in plants, flame photometric, 286.

in K - Na alloys, 3606.

in refractories, polarographic, 3608.

in rocks, 362.

Potassium, determination-continued

in serum, 1942.

flame photometric, 286.

in silicates, 29. flame photometric, 2107.

in sodium chloride, 3267.

in soil, 724.

flame photometric, 286.

photometric, correction of interference effects in, 1714.

polarographic, 4339.

in tissue, preparation of sample for, 179. in urine, flame photometric, 933, 3073.

in water, flame photometric, 286.

of Na in, 3996.

paper chromatographic, 1114.

potentiometric, 3250. radiochemical, 2520.

X-ray emission spectrographic, 2108. liquid, sampling and analysis of, 3995.

organic compounds of, solubility in water of, 2521. separation from Ca and Na, in bone, by ion exchange, 604.

from Na, chromatographic, 360. radio-chromatographic, 2106. weighing of, 2516.

Potassium alloys, analysis of K - Na. 3606. liquid, sampling and analysis of, 3995.

Potassium chloride, determination of Ca in, polarographic, 792.

Potassium chromate, thermal stability of, 339.

Potassium dichromate, study of reaction with sulphurous acid, 1825. Potassium ethylxanthate, determination,

spectrophotometric, 1554. Potassium ferricyanide, thermal stability of, 339.

use of, as volumetric reagent, review, 3971. Potassium ferrocyanide, thermal stability of, 339.

Potassium hydrogen di-iodate, thermal stability of, 339.

Potassium hydroxide, determination of Fe in, polarographic, 3738.

Potassium metaperiodate. (See Potassium periodate.) Potassium periodate, thermal stability of, 339. use of, as volumetric reagent, review, 3971.

Potassium permanganate, determination, amperometric, 1517.

reconversion Potassium tetraphenylboron, NaB(C, H,), by ion exchange, 3242.

Potassium thiocyanate, determination, potentio-

metric, 1085. thermal stability of, 339.

Potato albumin, determination of amino acids in, paper chromatographic, 1690.

Potentiometric titrations. (See Volumetric analysis, potentiometric.)

Powders, determination of surface area of, apparatus for, 2051.

measurement of size distribution of, apparatus for, 742.

determination, in mixtures Pramoxine, chlorcyclizine, i.r. spectrophotometric, 3817.

Praseodymium, determination, in lanthanum oxalate, spectrophotometric, 3657. isolation of carrier-free 143 Pr and 144 Pr, 1474.

separation from Nd, by ion exchange, 2925. Pregnanediol, determination, in urine, spectrophotometric, 1652, 3485.

Pregnanetriol, determination, in urine, 3864. comparison of methods for, 2751.

Pregnane-3α:17α:20α-triol-11-one, detection and determination, in urine, fluorimetric, 1653.

Preservatives, detection, 706.

determination, in food, paper chromatographic,

in fruit juices and wine, 1371.

of chlortetracycline in, spectrophotometric, 1013.

Primycin, detection and determination, photometric,

Pro-Banthine bromide. (See Propantheline bromide.) Procaine, detection, crystalloscopic, 1661.

paper chromatographic, 3134.

determination, 1661. coulometric, 691.

in procaine penicillin, 4280.

potentiometric, 3876.

spectrophotometric, 3507.

Procaine hydrochloride, determination, by ion exchange, 1669.

determination of decomposition product of, paper chromatographic, 1971.

Procaine penicillin. (See Penicillin.)

Procollagen, determination, spectrophotometric, 1309.

Progesterone, determination, i.r. spectrophotometric,

u.v. spectrophotometric, 2355.

17-hydroxy-, caproate of, determination, polarimetric, 3127.

identification, 3475.

separation, from biological materials, 3868.

and determination, spectrophotometric, 2750. Proline, determination, 3785.

in protein hydrolysates, polarographic, 651. spectrophotometric, 201.

Promazine, determination, 2381.

separation, from chlorpromazine, electrophoretic,

Promethazine, determination, polarographic, 252. Propane, analysis of, i.r. spectrophotometric, 3817. Propane-1: 2-diol, determination, spectrophoto-

metric, 124. separation, by ion exchange, 861.

n-Propanol, separation, chromatographic, 1883. isoPropanol. (See isoPropyl alcohol.)

Propantheline bromide, determination, 1684.

Propellents, determination of dibutyl phthalate, dinitrotoluene and diphenylamine in, polarographic, 2308.

of dioctyl phthalate in, elimination of interference from nitroglycerin in, 928. of phthalate esters in, 929.

Prophenpyridamine. (See *Pheniramine*.)
Propionaldehyde, determination, in mixtures with 2-methylpenten-2-al, i.r. spectrophotometric,

Propionic acid, determination, in C1 to C4 fatty acid mixtures, 3800.

halogenated, separation, paper chromatographic,

separation, paper chromatographic, 3023. use of, as solvent for non-aq. titn., 3248.

Propoxycaine, determination, spectrophotometric, 3507.

isoPropyl alcohol, determination, 4169.

separation from mixtures with CHCl₃ and ethyl methyl ketone, gas chromatographic, 2228. and determination, in benzene, gas chromatographic, 3564.

Propyl gallate, detection, paper chromatographic,

separation and identification, paper chromatographic, 995.

Propyl p-hydroxybenzoate, identification, paper chromatographic, 1373.

isoPropyl nitrate, determination, polarographic,

isoPropyldiphenyl, use of, as solvent in liquid scintillators, 4405.

Protactinium, determination, 469.

in ore residues, 3319.

of 233 Pa, 1178. distribution coeff. of, 3319.

separation, electrophoretic and paper chromatographic, 3697.

from Th, by ion exchange, 2601. paper chromatographic, 2962.

Protease, determination of activity of, 2358.

Protein fibres. (See Fibres.)

Protein hydrolysates, determination of amino acids in, paper chromatographic, 1623.

of arginine in, spectrophotometric, 205. of hydroxyproline and proline in, polarographic,

of tyrosine in, 203.

Proteins. (See also Glycoproteins; Lipoproteins.) C-reactive, determination, in serum, 1955.

detection, 953.

in urine, 1602.

of phenylthiohydantoins of, paper chromatographic, 3097

of refractive index inflection points of, 663. determination, by thermocoagulation, 1320.

colorimetric, standard for, 207.

electrophoretic, 2348. in blood, 664.

in c.s.f., comparison of methods for, 1641.

of C-terminal residues in, 3465.

of cysteine plus cystine in, spectrophotometric, 2742.

of end carboxyl groups in, 2737.

of free amino N in, 1636.

of N in, 3465.

of N-terminal residues in, 3466.

of tyrosine and tryptophan in, spectrophotometric, 204.

polarographic, 3470. radiochemical, 4260.

spectrophotometric, 3464. electrophoretic study of, 3467.

muscle, separation and determination, 2743. plasma, assay of amino acids in, 1637.

identification of nucleic acids in, u.v. spectrophotometric, 2745.

preparation of samples for radio-assay, 2344. separation, by ion exchange, review, 2342, 2478.

serum, determination, electrophoretic, 1638. elimination of interference in, 952

of hexoses in, spectrophotometric, 1640. human, analysis of, agar electrophoretic, 1318. identification of nucleic acids in, u.v. spectrophotometric, 2745.

separation, 2744.

comparison of methods for, 2346.

electrochromatographic, 2347.

electrophoretic, 660, 661, 1319, 1956, 2345, 3859.

effect of buffer on, 2349.

whey, determination, in skim milk, electrophoretic, 1692.

Proteolytic activity, determination, of enzyme preparations used for stabilisation of beer, 1370.

Prothrombin, determination, 637. in plasma, 3839.

Protocatechualdehyde, determination, polarographic, 2714.

Pulp. (See Mineral pulp; Paper pulp.)

Purines, detection, paper chromatographic, 2732, 4190

determination, paper chromatographic, 3795. Pyramidon. (See Amidopyrine.)

Pyrazinamide, analysis of intermediates for, 4298.

determination, in blood and urine, 1945. in mixtures with isoniazid, spectrophotometric,

1974, 1975. of pyrazinoic acid in mixtures with, spectrophotometric, 4297.

polarographic, 4295. separation and determination, by ion exchange, 4296

Pyrazine, separation and identification, gas - liquid chromatographic, 3039.

Pyrazine-2:3-dicarboxylic acid, determination, u.v. spectrophotometric, 4298.

Pyrazinoic acid, determination, in presence of pyrazinamide, spectrophotometric, 4297. Pyrazole-anthrone, determination, potentiometric,

896

Pyr.ne, detection, 1911. separation, chromatographic, 2263.

Pyrethrum, determination of pyrethrin II in,

spectrophotometric, 1395. Pyridine. deriv. of, determination, in coal-tar distillates, u.v. spectrophotometric, 3410.

detection, 3038. determination, 580.

separation, paper chromatographic, 582.

and determination, in presence of a-picoline, paper chromatographic, 581. Pyridine bases, analysis of, chromatographic, 148.

determination, spectrophotometric, 1275. Pyridine nucleotides, di- and tri-phospho-, deter-

mination, fluorimetric, 947. Pyridinecarboxyaldehydes, determination, polarographic, 3403.

Pyridinecarboxylic acids, i.r. spectra of, 3401. Pyridines, alkyl, deriv. of, determination, i.r.

spectrophotometric, 2276. i.r. spectra of, 1564.

spectra-structure correlations of, 894.

Pyridinium salts, determination of N in, 1908. Pyridoxine, determination, in vitamin B complex. photometric, 708.

spectrophotometric, 2374. 1-(2-Pyridylazo)-2-naphthol, use of, as indicator, 462, 2116, 3301.

in analysis, 4092 4-(2-Pyridylazo) resorcinol, use of, as metallochromic indicator, 1756.

Pyrimethamine, determination and identification,

Pyrimidines, detection, paper chromatographic,

determination, paper chromatographic, 3795. 5-Pyrimidinyl disulphides, detection, polarographic,

Pyrites, determination of Co in, photometric, 2649. of Cu, Pb and Zn in, polarographic, 1160. of Ni in, spectrographic, 4135. of S in, 815.

Pyrogallol, determination, in urine, spectrophotometric, 4242

Pyrophosphate, determination, in soluble orthophosphates, spectrophotometric, 1812. in triphosphate, 75.

by ion exchange, 73.

tetrasodium, determination, by paper-impregnation method, 1169.

Pyrophosphates, i.r. spectra of, 3682. Pyrosulphate, separation, paper chromatographic, 1833.

Pyrosulphite, determination, in mixtures of inorganic S compounds, 2966.

separation, paper chromatographic, 1833.

Pyrrole, deriv. of, determination of N in, spectrophotometric, 2281. identification, 1274.

Pyrrolidonecarboxylic acid, separation and identification, in plasma, paper chromatographic, 3089. Pyruvic acid, determination, potentiometric, 1085.

Pyruvic kinase, determination of activity of, 3846.

Qualitative analysis, charcoal-block reactions in, 3592

inorganic, preliminary examination, by heating, 349.

interference of borate ion in, 3591.

modifications for microgram scale, 798.

of anions, 2077.

of cations, paper chromatographic, 2076.

of group I, 3962.

organic, 1240.

use of fusion reactions with benzoyl peroxide in, 549.

scheme for, 1427.

separation of groups 2A and 2B, 1428.

of groups 2B and 3A, paper chromatographic, 779.

use of evaporation in, 3963. of thio salts in. 6.

Quantitative analysis, spot method for, 3964.

Quartz, analysis of, by ion exchange, 1871. determination of Ni in, spectrographic, 4135.

Quaternary ammonium salts. (See also individual compounds.)

separation, paper chromatographic, 2254.

Quercetin, determination, 960. use of, in analysis, 806.

Quinidine, determination, in serum, spectrophotometric, 2316. oscillopolarographic, 2363.

Quinine, detection, paper chromatographic, 216. determination, 225, 1332, 1668.

in serum, spectrophotometric, 2316. oscillopolarographic, 2363. separation, electrochromatographic, 1663.

Quinine carbonate, determination, oscillopolarographic, 2363.

Quinine ethylcarbonate, determination, oscillopolarographic, 2363.

Quinizarin, use of, in analysis, 1786.

Quinol, determination, in methyl methacrylate, polarographic, 1906. potentiometric, 1085.

Quinoline, deriv. of, determination, in coal-tar distillates, u.v. spectrophotometric, 3410. i.r. spectrum of, 1564.

isoQuinoline, determination, in presence of quinoline and quinaldine, 1753. i.r. spectrum of, 1564.

Quinolinecarboxylic acids, i.r. spectra of, 3401.

Quinolinol. (See 8-Hydroxyquinoline.)

Quinones, detection, 628, 1911.

determination, review, 4178. Quinotoxine, determination, oscillopolarographic, 2363.

Quinoxaline, dei metric, 4298. determination, u.v. spectrophoto-

Quinoxaline-2:3-dithiol, use of, in analysis, 2650.

Radioactive isotopes, analysis of, y-spectrometric,

determination of concn. of, 2069. use of, in analysis, review, 1082 in spectrographic analysis, 1769.

in study of co-pptn., 1768.

Radioactivity, analysis of, in natural water, 3540. determination in natural products, 763.

Radiochemical analysis. (See also Scintillation counter.)

apparatus for, 1420, 1725. and techniques for, 2474.

applications to industrial analysis, 2478. circulating pump for, 4404.

counting assembly for, 764.

evaluation of separation procedures in, 1421. gamma absorptiometer for, 2475.

in USSR, review, 2481.

isotope dilution method, principles of, 1440. technique and apparatus for, 2862. methods for, 1097, 1099.

review, 1082.

of short-lived radionuclides, recoil technique for, 4407

preparation of samples for, 2469.

and analysis of tracer compounds for, review,

principles of isotope dilution methods for, 1440. reviews, 1098, 3983, 3984, 3985.

two-dimensional pulse-height analyser for, 4387. use of impulse discriminator with y-scintillation counter in, 2472.

of polarographic methods in, 3238.

Radium, aerosols, determination, in presence of other a-active aerosols, 2543.

determination, 4101.

in industrial wastes, 3542. in natural water, 1386.

in ores, 391. and residues, by y-ray determination, 1132. in radioactive minerals, 1508.

isotopic, determination, in rocks and minerals,

separation, chromatographic, 4009.

Radon, determination, in air, 1704.

Raffinose, determination, paper chromatographic, 3840.

Raman spectra. (See Spectra.)

Rape seed, determination of thio-oxazolidones in, spectrophotometric, 289.

Rare earths, actinide, analytical chemistry of, review, 1082.

separation, by ion exchange, 423. cerite, determination of Th in, 3302

lanthanide, separation, by ion exchange, 423. preparation of soln. of, for 4π-counting, 2147.

Rare gases. (See Gases.)

Rare-earth metals, analysis of, spectrographic, 3658. spectrophotometric, 2146.

determination, 3986.

in oxides, spectrographic, 1149. in thorium, spectrographic, 1150. spectrophotometric, 2919.

oxalates of, thermal decomposition of, 1799.

reactions with 8-hydroxyquinoline and 2-methyl-8-hydroxyguinoline, 2560.

separation, by ion exchange, 2920. chromatographic, 2888.

electrophoretic, 2921. from Cs, Ru and Te, by ion exchange, 821. of U from, 828.

by ion exchange, 829.

Rare-earth metals, separation-continued

and determination, in monazite sand, electrophoretic, 3289.

spectrographic, 2562.

Rat poisons.

(See Antu; Pindone; Warfarin.) separation of alkaloids in, paper Rauwolfia. chromatographic, 3496.

serpentina, analysis of, comparison of methods for, 681. assay of, 1331.

Rauwolfia alkaloids. (See also Reserpine.)

separation and determination, chromatographic, 4276.

of reserpine in, electrophoretic, 3110.

RC-titrations. (See Volumetric analysis.) Reagents, applications in industrial plant-control operations, 2478.

organic, theory of action of, 340.

(See Minium.) Red lead. Red mud, determination of Na in, flame spectrophotometric, 15.

Redox indicators. (See Indicators.)

Redox indicators. (See Indicators.)
Redox titrations. (See Volumetric analysis.)

Reducing agents, determination, potentiometric, 1085

Refractive dispersions, conversion of, 2062.

Refractive index, detection of inflection points, in liquids, 663

Refractometer, design for, 1066. self-balancing differential, 3575. use of spectrometer as, 326.

Refractories, analysis of, comparison of methods for, 2929

spectrographic, 4151. chromomagnesite, analysis of, amperometric,

determination of Al₂O₃ in, photometric, 4023. of graphite in, X-ray spectrometric, 2564. of K and Na in, polarographic, 3608.

Remote handling, micro-pipette for sampling by, 1019.

Resazurin ethyl ether, use of, as redox indicator, 2500.

Reserpine, determination, in presence of ajmaline and serpentine, paper chromatographic, 1965. spectrophotometric, 1964, 2366.

separation, from reserpic acid and yohimbine, paper chromatographic, 2367.

and determination, chromatographic, 4276. in Rauwolfia, electrophoretic, 3110.

Resin acids, separation, 3925.

Resins, synthetic, alkyd, analysis of, paper chromatographic, 1298.

determination of phthalic anhydride in, 598. of polyhydric alcohols in, 921.

of polystyrene in, i.r. spectrophotometric, 599.

spectrophotometric, 887.

i.r. spectra of, 1299.

analysis of, paper chromatographic, 4222. detection, 1936.

epoxy, determination of α-glycol groups in, 2720. determination of polystyrene in, i.r. spectrophotometric, 599. review, 3062.

study of curing of, i.r. spectrophotometric, 1581. identification, on textiles, 1931.

melamine - formaldehyde, determination, in coatings, 925.

phenolic, analysis of, paper chromatographic,

polyester, determination of free maleic anhydride in, photometric, 2302. poly(vinyl acetal), identification, 597.

Resins, synthetic-continued

silicone, determination, 3418.

gasometric, 4195.

urea, determination of mono- and di-(hydroxymethyl)urea in, i.r. spectrophotometric, 2721. urea - formaldehyde, identification, 2299.

Resoles, determination of phenols and cresols in, paper chromatographic, 2301.

Resorcinol, determination, 4287.

Resorufin ethyl ether, use of, as redox indicator, 2500.

Respirometer, semi-micro, 2050.

Rhamnose, determination, spectrophotometric, 945. L-, separation, paper chromatographic, 866. separation and determination, paper chromatographic, 3086.

Rhenium, determination, in columbite, spectrophotometric, 4088.

of ReVII, 513.

spectrophotometric, 842.

oscillopolarographic behaviour of, 847.

separation from Pb, 2207.

from Hg, 2207.

from Mo, by ion exchange, 483.

and determination, in molybdenite, 4115. Rhodamine B, use of, in analysis, 2141.

Rhodanine, analysis of, 1661.

detection, 1279.

Rhodium, determination, 2655, 4144.

in ores and slags, spectrographic, 2898. in plutonium, spectrophotometric, 3351. oscillopolarographic, 3005.

separation, by ion exchange, 2218. electrochromatographic, 848, 1869, 1870.

from Ir, Pd and Pt, by ion exchange, 534. electrochromatographic, 1531.

of Cu, Fe, Pb and Ni from, by ion exchange, 2656.

of Pt from, 849.

paper chromatographic, 4142.

Riboflavine, deriv. of, separation, by countercurrent extraction, 943.

determination, 1661. in presence of vitamin B12 and haematoporphyrin, 3533.

in urine, fluorimetric, 4237.

in vitamin B complex, polarographic, 708.

review, 3171.

phosphates of, separation, by ion exchange, 4254. separation and determination, in foodstuffs, 3914. Ribonuclease, determination of activity of, 1326.

turbidimetric, 3871. Ribonucleic acid, determination, refractometric, 206.

review, 3451. precipitating agent for, 1326.

Ribose, separation and determination, paper chromatographic, 3086.

Ribulose, determination, 194.

Rice, identification, in ground cereals, 977.

Ring-oven method. (See Weisz ring-oven.)

Rivanol. (See Lactoacridine.)

Rocks. (See also Minerals.)

determination of Co in, spectrophotometric,

silicate, analysis of, by ion exchange, 1871. reporting of results of, 3663.

determination of Ca in, flame photometric, 2539.

of K in, 29.

of Ag in, spectrographic, 2893.

Rosin, acids of, analysis of, chromatographic, 1934. Rubber, determination of ferric oxide in, photometric, 3815.

Rubber, determination-continued

of free S in, in presence of S-containing accelerators, 1584.

polarographic, 1939.

of polyisobutylene in, 2307.

of Zn in, 3420, 3814.

of ZnO in, spectrophotometric, 2723.

i.r. spectra of, 3570.

separation and determination of antioxidants in, paper chromatographic, 3816. vulcanised, determination of Ca, Mg and Zn in.

1304. of S in, B.S.I. standard for, 3066.

Rubeanic acid. (See Dithio-oxamide.)

Rubidium, analysis of, spectrographic, 1435. detection, 1442, 3612.

paper chromatographic, 4077. determination, in beryl, felspar and mica, X-ray

spectrographic, 786. in sea water, by isotopic dilution, 718. in sodium and Na - K alloy, 3606.

paper chromatographic, 1114.

polarographic, 3605. potentiometric, 3250.

liquid, sampling and analysis of, 3995.

organic compounds of, solubility in water of, 2521.

radioactive, determination of half-life of, 1119. separation, from Cs, chromatographic, 363.

Ruthenium, carrier-free, separation from fission products, 533, 3757. determination, 3003.

of ionic charge of, by ion exchange, 4143.

polarographic, 3352, 3353. spectrophotometric, 846, 1868, 3352.

radioactive, determination, in organic compounds, 3354. separation, 540.

electrochromatographic, 848, 1869.

electrophoretic, 1529.

from Cs, Te and rare earths, by ion exchange, 821.

paper chromatographic, 4142.

and determination, spectrophotometric, 2657. Rutin, determination, 960.

photometric, 3882. polarographic, 3883.

spectrophotometric, 229, 1967.

use of, in analysis, 341.

Rye, identification, in ground cereals, 977.

SPADNS, comparison with arsenazo, 3986.

STCA. (See Sodium trichloroacetate.)

Saccharides, separation, paper chromatographic, 1253.

Saccharimeter. (See Polarimeter.)

Saccharose. (See Sucrose.)

Salicylaldehyde, determination, photofluorimetric, 2267. polarographic, 2714.

Salicylaldoxime, use of, in analysis, 2630.

Salicylamidoxime, use of, in determination of Ti,

Salicylic acid, determination, 218.

in acetylsalicylic acid, 232.

in ointments, 3501.

in plasma, spectrophotometric, 620.

spectrofluorimetric, 2267.
identification, paper chromatographic, 1373. separation from sulphosalicylic acid, electrophoretic or paper chromatographic, 1559.

Salicylic esters, determination, spectrofluorimetric, 2267

Salicyloylhydrazide, use of, in analysis, 672, 3563. Saligenin, determination, paper chromatographic, 283. Saliva, determination of I in, 2313.

Salsolidine, determination, potentiometric, 3876. Salsoline, determination, potentiometric, 3876.

Salt. (See also Sodium chloride.) determination of Cu in, spectrophotometric, 789.

Samarium, detection, 1152. determination, in lanthanum oxalate, spectro-photometric, 3657.

Sampling, statistical theory of, 2.

technique of sub-sampling, use in control laboratory problems, 1.

Sand, determination of SiO2 in, 428.

of Ti in, 1161.

for making colourless glasses, B.S.I. standard for, 3355.

San-pas. (See 4-Aminosalicylic acid, sodium salt.) Santonin, determination, comparison of methods for, 3119.

polarographic, 219.

separation and determination, in plant material, 3881.

Saponins, determination, in sugar, 1359. in sugar beet, spectrophotometric, 2775. differentiation between steroid and triterpenic,

4338. Sarcosine, separation from methylaminediacetic

acid, by ion exchange, 656. Sausages, detection of spices in, microscopical, 992. determination of phosphates in, paper chromatographic, 2391.

Scandium, determination, in minerals and ores, spectrographic, 419.

oxalate, thermal decomposition of, 1799.

separation from Ti and V, by ion exchange, 3656. of carrier-free, from cyclotron targets, by ion exchange, 3581.

Scarlet 3B. (See 1-o-carboxyphenylazo-2-naphthol-3:6-disulphonic acid.)

Scheelite, determination of Mo in, spectrophotometric, 86.

of W in, potentiometric, 487.

Schleich's anaesthetic mixture, analysis of, gas liquid chromatographic, 1970.

Schradan, analysis of, review, 1015.

Scintillation counter. (See also Radiochemical analysis.)

flow-through cell for, 2470.

for analysis with radioactive tracers, 1423. gas, 2471.

liquid, for low-energy \(\beta\)-particles, 4406. use of impulse discriminator with, 2472. well, for improved volume efficiency, 2473.

Scopolamine. (See Hyoscine.)

Sea water. (See Water, sea.)
Sebacic acid, separation from phthalic acid, chromatographic, 140.

Selenate, separation, chromatographic, 456. Selenite, determination, potentiometric, 2607. separation, chromatographic, 456.

Selenium, detection, 820, 1183. determination, 476.

in ores, 4082

spectrographic, 3705.

in organic compounds, 2664.

in pyrites, spectrographic, 1435. of As in, spectrophotometric, 4083.

of trace metals in, polarographic, 2883. spectrographic, 3706.

spectrophotometric, 1499. separation from Pb, 2207.

Semicarbazides, determination, 2245, 3790.

4-Semicarbazidoazobenzene, use of, in analysis, 1754. Semicarbazones, determination, 2245.

Semi-conductors, determination of impurities in, 1776.

of O in, by radiation measurements, 3699.

Semolina, detection of hard wheat flour in. 260. Separating funnel, for use with liquid amalgams, 734. Sera, medicinal. (See Antisera.)

Serine, determination, 1634. by ion exchange, 657.

Serotonin. (See 5-Hydroxytryptamine.)

Serpentine, determination, in presence of ajmaline and reserpine, paper chromatographic, 1965.

Serum. (See Blood serum.)

Sewage. (See also Industrial wastes.) determination of C.O.D. of, 279.

of fatty acids in, paper chromatographic, 1005. identification and determination of organic acids

in, chromatographic, 2012. Shale, determination of S in, comparison of methods

for, 3804. Shikimic acid, detection and determination, spectrophotometric, 3842.

determination, spectrophotometric, 722.

Sialic acids. (See Neuraminic acids.)

Silage, determination of fatty acids in, by countercurrent extraction, 4345. of N in, photometric, 3552.

Silanes, chloro-, alkyl- and aryl-, determination, in air, photometric, 712. determination of Cl in, 3012, 4194.

trialkoxy, determination, gasometric, 4195.

Silanols, determination, gasometric, 4195. Silica, analysis of, spectrographic, 427.

catalysts, differential thermal analysis of, 801. determination, 61.

in alumina, spectrographic, 55. in coal, spectrographic, 1573.

in glass, 428. B.S.I. method for, 1238.

in ores, photometric, 4037. in presence of phosphoric acid, 426.

in sand and silicate materials, 428. in slag, 32.

spectrophotometric, 425, 3662. Silicate materials, determination of SiO2 in, 428.

Silicates. (See also Minerals; Rocks.) analysis of, 4150. comparison of methods for, 2929.

spectrographic, 2561 decomposition of, with NH4F, 4038.

determination of Al₂O₃ in, comparison of methods for, 2556.

of Al, Ti, Fe, Ca, Mg and Mn in, spectrographic, 1156.

of B in, spectrophotometric, 3645. of Ga in, spectrographic, 3650.

of MgO in, 2126. of K and Na in, flame photometric, 2107.

Silicic acid, separation of impurities from, by highvoltage electro-dialysis, 2931.

Silicomanganese, determination of Mn in, 3737.

Silicon, analysis of, gamma-spectrometric, 4036. radiochemical, 4036.

spectrographic, 2930.

detection, in organic compounds, spectrographic,

determination, 1154.

in aluminium alloys, 56. spectrographic, 1797.

in bauxite, spectrographic, 409. in cryolite, photometric, 1155.

in ethyl silicate, photometric, 3034,

Silicon, determination-continued in ferroboron, 4035. in ferrosilicon, 4033, 4034. in fluxes, photometric, 4127. in fuel ash, photometric, 3006. in iron, photometric, 1522. spectrophotometric, 2994. in limestone, photometric, 2905. in organic compounds, 116. in organosilicon compounds containing S, 546. in plants, spectrophotometric, 3546. in Si - U alloys, 3262. in siloxanes, 3035. in steel, photometric, 1226, 4127. spectrographic, 1223, 2989 spectrophotometric, 524, 2642, 2994. in titanium dioxide, spectrographic, 2581. of Al and Fe in, spectrophotometric, 3649. of Sb, As and Cu in, y-spectrometric, 800. of As in, 2954. of B in, 1793. of Ti in, spectrophotometric, 2157. Silicon nitride, determination of N in, 2951. Silicon, organic compounds of, determination of Cl in, 4194. Silicone resins. (See Resins, synthetic.) Siloxanes. (See also Polymers.) determination of methoxyl groups in, 3069 of Si in, 3035. Silver, detection, 376. paper chromatographic, 350. and determination, in minerals, chromatographic, 1775. determination, 373, 1125, 1455, 3624, 3625. amperometric, 827, 1443. by use of ¹³¹I, 1784. in alloys, electrometric, 2099. in lead, 437. in ores, spectrophotometric, 4004. in photographic materials, 2540. potentiometric, 2122. in presence of Cu, photometric, 3271. in silicate rocks, spectrographic, 2893. in water, 1708. of Au, Ir, Pd and Pt in, radiochemical, 3626. of traces, in alloys and soln., 2529. on plated metals, electrometric, 4006. paper chromatographic, 34. potentiometric, 2251. radiochemical, 2530. reviews, 3623, 4005. study of cupellation losses in, 2895, 4008. electrolytically generated, use of, as coulometric titrant, 4007. oscillopolarographic behaviour of, 847. separation, electrochromatographic, 2892. radiochemical, 2542. Silver bromide, analysis of, 2894. Silver iodide, analysis of, 2894. Silver salts, flame-photometric properties of, 3272. Silver sulphide, study of combustion of, for sulphur isotopic measurements, 2184. Silyl cyanides, i.r. spectra of, 3391. Sirupus Simplex D.A.B.6, determination of sucrose in, 1354. Slag, analysis of, 32. spectrographic, 541, 1435. basic, determination of Mg in, 383. of P in, 2166. blast-furnace, analysis of, 1872. determination of Ca and Mg in, flame spectro-

photometric, 3277.

cupola, determination of Al₂O₃ in, 53.

Slag-continued determination of Al2O3 in, spectrophotometric, of Fe2+ in, 2636. Smokeless powders. (See Propellents.) Soap, determination, in vegetable oil, conductimetric, 1993. of non-ionic detergents in, 3412. separation of fatty acids in, paper chromatographic, 1576. Sodium. (See also Alkali metals.) analysis of, 3606. detection, 359. paper chromatographic, 4077. determination, 26, 2105. by ion exchange, 3609. flame photometric, 24, 25. influence of K on, 1435. flame spectrophotometric, 3607. in aluminium oxide, flame spectrophotometric, in bismuth and Bi - U alloys, spectrographic, 3315. in calcium salts, flame photometric, 44. in dunite, radiochemical, 1449. in fuel ash, 3006. in glass, B.S.I. method for, 1238. in graphite, flame photometric, 2104. in organic compounds, simultaneously with C and H, 1537. in plants, flame photometric, 286. in refractories, polarographic, 3608 in serum, by neutron activation analysis, 2310. flame photometric, 286. spectrophotometric, 1588. in silicates, flame photometric, 2107. in soil, flame photometric, 286. flame spectrophotometric, 724. photometric, correction of interference effects in, 1714. in tissue, preparation of sample for, 179. in urine, flame photometric, 933, 3073. in water, flame photometric, 286, 713. of O in, 2886. potentiometric, 2887. liquid, sampling and analysis of, 3995. separation from Ca and K, in bone, by ion exchange, 604. from K, chromatographic, 360. radio-chromatographic, 2106. Sodium alloys, analysis of Na - K, 3606. liquid, sampling and analysis of, 3995. Sodium bicarbonate, determination, in presence of alkali carbonates, 3265. Sodium carbonate, drying and decomposition of, 3246. Sodium catechol-3:5-disulphonate. (See Tiron.) Sodium chloride. (See also Salt.) determination, in meat, 2390. of Ca in, polarographic, 792 of Fe in, polarographic, 3738. of K in, 3267. 14C-labelled, preparation and Sodium cyanide, 14 analysis of, 1801. Sodium aa-dichloropropionate, analysis of, review, 1015 Sodium dithionite, determination, 1498. Sodium formaldehyde-bisulphite, determination, 3779. Sodium formaldehydesulphoxylate, determination, 3779. Sodium hydroxide, determination of Fe in, polarographic, 3738.

of Hg in, spectrophotometric, 2912.

Sodium hyponitrate, determination, 3306.

Sodium nitrite, determination, potentiometric, 1085. Sodium oxalate, determination, potentiometric, 1085.

Sodium phosphates, X-ray diffraction data for, 4063

Sodium salicylate, determination, in presence of theobromine, 3880.

Sodium salts of complex organic acids. (See under the corresponding acid.)

Sodium sulphide, determination, potentiometric, 2182

Sodium tetraphenylboron, test for stability of aqsoln. of, i.r. spectrophotometric, 2485. use of, in analysis, 3250.

bibliography of, 3586.

Sodium trichloroacetate, analysis of, review, 1015. Soil, analysis of, 288.

thermogravimetric, 3929.

determination of alkaline-earth bases in, 1718.

of Al in, flame spectrophotometric, 2022. of NH3 in, 3551.

photometric, 2812. of ¹⁴⁰Ba and ⁹⁰Sr in, radiochemical, 3433.

of Ca in, 725.

flame photometric, elimination of anion interference in, 1391.

flame spectrophotometric, 724.

polarographic, 4339. of Ca, K and Na in, photometric, correction of interference effects in, 1714.

of cation-exchange capacity of, 1392.

of Cr in, 287.

of Co in, 1717.

spectrophotometric, 4341.

of Cu in, 1717.

of hexosamines in, 1393.

of Fe in, 1716. spectrophotometric, 2024.

of Pb in, 1717. of Mg in, 725.

flame spectrophotometric, 724. elimination of interference in, 726.

of Mn in, 1717. of Mo in, 3931.

of Ni in, 1717.

of NO₃ in, polarographic, 4339.

of pH of, comparison of methods for, 285. of PO43- in, purification of decolorising char-

coal for, 1018. of Pin, 2813, 4340.

polarographic, 4339.

of K in, 724. flame photometric, 286. polarographic, 4339.

of Na in, flame photometric, 286. flame spectrophotometric, 724. of SO_4^{2-} in, 1715, 2023. of S in, 3930.

of 2:3:5:6-tetrachloronitrobenzene in, photometric, 292.

of water in, conductimetric, 1390.

of Zn in, 1717.

Soil - cement, determination of cement content of,

Solanaceous alkaloids. (See Alkaloids.)

Solanaceous drugs, extraction of alkaloids from, apparatus for, 308.

Solders, analysis of, spectrographic, 1805. Solochrome red ERS. (See Eriochrome red B.)

Solvents, organic, analysis of, by dielectric constant measurements, review, 4153.

Sorbic acid, detection, in wine, paper chromatographic, 2794.

determination, spectrophotometric, 1256.

Sorbitol, determination, in wine, paper chromatographic, 989.

separation, from glucose, paper chromatographic, 4173.

Sorghum, identification, in ground cereals, 977. Spanish sage oil, B.S.I. specification for, 3414. Sparteine, determination, spectrophotometric, 3112. Spasmalgin, separation of components of, paper

chromatographic, 1329.

Spearmint oil, B.S.I. specification for, 3414. Specific rotation, of drugs, temp. coeff. of, 4273. Spectra, i.r., of alkali pyrophosphates, 3682.

of alkyd resins, 1299. of o- and p-alkylphenols, 569.

of disaccharides, 3018.

of dimethoxymethane, 3377.

of heterocyclic compounds, 1564.

of malonate esters, 3384.

of metal chelates of dithio-oxamide, 3390.

of organic S compounds, 1435.

of oxirane compounds, 3070. of n-paraffin hydrocarbons, 3773, 4166.

of polyphenyls, 4200.

of pyridine carboxylic acids, 3401.

of pyridines, 1564.

of quinoline and isoquinoline, 1564.

of quinolinecarboxylic acids, 3401.

of rubber, 3570.

of silyl cyanides, 3391.

Raman, water-cooled mercury arc lamp for excitation of, 320.

Spectrofluorimeter, apparatus and applications, 1740.

Spectrograph, Bausch and Lomb Littrow, apparatus for interchange of lens and prism mounts, 1737. concave grating mounting for, 2447.

pulse, 2444. quartz, modifications for use as monochromator,

rotation of diffraction grating, 2055.

Unicam S.P. 500, modifications to, 2446.

Spectrography, emission. (See also Photometry, flame.

analysis of metals by, 1054.

applications of 'single addition method,' 2837.

to industrial analysis, 2478 to steelworks analysis, 2478.

carrier pptn. of trace elements in, 3567.

control of spark excitation in, 317.

correction for arc fluctuation in, 744.

dependence of background on electrode separation and arc current in, 16.

determination of concn. by, correction for con-

trast factors of plate in, 2838. of degree of condensation of impurities in, 743.

emulsion calibration in, 2445. in atmosphere of Cl, apparatus for, 2839.

isotope analysis by, 2877.

measurement of intensity of emission, 745.

of non-metallic samples, 3214. of powdered samples, use of line widths in, 2840.

of soln. adsorbed on paper, 746. photo-electric, 318, 319.

prep. of samples for, by evaporation method, 3212.

projection spectrum comparator for, 1055. reviews, 15, 1082, 1435.

of industrial applications of, 2867. statistical evaluation of methods of, 1752.

study of homogeneity of zinc-base standards for, 1409.

Spectrography, emission—continued use of, in USSR, review, 2480. of internal standards in, 1052. of radioactive isotopes in, 1769. of time-resolved spectra in, 3215. with d.c. arc, combination carbon - graphite electrode for, 3213. Spectrography, emission, X-ray, application to ternary mixtures, 2059. electron probe for, 2060. of solids, 2451. review of industrial applications of, 2867.

use of briquetting for prep. of samples for, 1064, Spectrometer, y-ray scintillation, modification of.

Spectrometry. (See also Mass spectrometry.) electron-spin resonance, 334.

y-ray, use of, for analysis of radio-isotopes, 2863. of isopropyldiphenyl as solvent in, 4405.

Spectrometry, absorption, X-ray, review of industrial applications of, 2867.

Spectrometry, fluorescence, X-ray, comparison with optical emission methods, 15, 1435. cooling of liquid samples for, 2058.

interference from Compton scattering in, 1063. Spectrometry, nuclear magnetic resonance, apparatus

low-field, apparatus for, 2476. review of industrial applications of, 2867. use of, for determination of H₂O, 1725.

Spectrophotometer, agitating system for use in cells,

Beckman Model DK-2, glass pens for, 2054. DU, diffusion cell scanning attachment for, 1738. fluorescence spectrum attachment for, 2057. spectral energy recording attachment, automatic wavelength marker and slit control

for, 2448. cell for, 322.

for use at low temp., 1408. of variable path length, 4371. small-volume, 4370.

CF4 Optica, 15.

chromatogram holder for, 1057.

electronic, for registering rapid changes in absorption, 1056.

for use over range 250 to 16µ, 3211. grating, 3568.

i.r., fore-prism-grating, 1435.

modifications for use in near-i.r. region, 1410. optical null, 3571.

prism, calibration of, 3569. sample holder for, 323.

temp, control of cell holder for, 316.

u.v., for continuous analysis with change of pH,

wavelength marker for, 321.

Spectrophotometer, flame. (See also Photometer, flame.)

Beckman, device for varying burner height of, 1050. Spectrophotometry, absorption. (See also Spectra.) apparatus for use with light-scattering samples, 3216.

application of statistical methods to, 2072. high-precision, 1436.

histophotometers for, 1058.

i.r., anomalous spectra of solids with potassium bromide disc technique, 3572.

applications to industrial analysis, 2478. copy-recorder for, 2450. determination of cell thickness in, 1411. fan-scale for, 2053. high-temp. cell for, 2056.

Spectrophotometry, absorption, i.r.-continued modification to grating spectrometer for use in,

of metals, electrolytic prep. of films for, 3217. prep. of samples for, 3570.

quant. introduction of volatile samples into gas cell, technique for, 1062.

reduced-scale auxiliary recording of spectra in. 1060.

review, 2505.

of industrial applications of, 2867, 2876.

solvent effect in, 3218. use of agar as specimen carrier in, 4368.

of 2:2-dimethoxypropane as drying agent for sample prep. in, 1061. of substitute standards in, 4369.

of unstable compounds, 2449.

u.v., analysis of two components by, 2266, distortion of spectra caused by fluorescence in,

1739. in range 195 to 230 mµ, 2452. monochromator for, 3952. of vapours in dynamic systems, 4373.

purification of solvents for, 2093. review of industrial applications of, 2867. use of, in identification of drugs, 3873.

of short-wave lines in, 1435. vapour, applications of, 17.

use of didymium filter for wavelength calibration in, 1053.

of wire screens as standards in, 324.

Spermidine, determination, spectrophotometric, 1951

Spermine, determination, spectrophotometric, 1951. Spices, detection, in food, microscopical, 992.

of turmeric in mixtures of, paper chromatographic, 993.

Spirits, determination of diacetyl in, spectrophotometric, 2399.

Stainless steel. (See Steel.)

Standards, volumetric, thermal stability of, 339. Stannic oxide, determination, in Sn - SnO - SnO₂ mixtures, 2936.

Stannous oxide, determination, in Sn - SnO - SnO2 mixtures, 2936.

Staphylomycin, analysis of, 1341.

Starch, determination, in foods, polarimetric, 978. in paper, 4220. of water in, 1360.

polarimetric, influence of clarifying agents on, 4310.

polarographic, 4308.

identification, in ground cereals, 977. oxy-, determination of dialdehyde content of,

spectrophotometric, 2292. Starch conversion products, and glucose and maltose in, 2386. determination of

Starch syrup, determination of water in, 1360. Statistics, applications to analysis, 2482, 3584.

to spectrophotometric methods, 2072. evaluation of spectrographic methods by, 1752. reduction and presentation of experimental results, B.S.I. standard for, 2868.

review of applications to industrial analysis of, 2867.

Steam, analysis of, use of ionites in, 1387. Stearins, separation, chromatographic, 1377.

Steatorrhoea, screening test for, with ¹⁸¹I-labelled triolein, 3844.

Steel, analysis of, 3989.

by surface treatment, review, 3761. influence of As on, 3748. spectrographic, 1435, 2639, 2989.

elimination of effect from nitriding in, 2640.

Steel, analysis of—continued

X-ray fluorescence spectrometric, 2214.

carbides in, analysis of, 1862.

chrome - nickel, determination of Cu in, photometric, 3616.

determination of Al in, photometric, 106, 1222, 4123, 4125, 4126.

of AlN in, 4120.

of Sb in, polarographic, 108.

of As in, 4129.

B.S.I. standard for, 3345. spectrophotometric, 2645. of B in, photometric, 1225, 1226.

spectrographic, 4122.

of C in, 107, 2993, 3678. conductimetric, 4121. mass spectrometric, 523.

of Cr in, amperometric, 1443. of Co in, 1867.

photometric, 2649. polarographic, 2647.

of Cu in. photometric, 3616.

of gases in, 2991.

comparison of methods for, 1863. method of sampling for, 522.

review, 2990. of H in, 104.

apparatus for, 105.

method of sampling for, 3747. of iron carbide in, photometric, 3343.

of Pb in, electrolytic, 2643. polarographic, 2938

spectrographic, 1524. of Mn in, 512, 4114.

amperometric, 1443. of Ni in, photometric, 1226.

of Nb and Ta in, simultaneously, 4130.

of N in, 3678.

sources of error in, 2995.

spectrophotometric, 525. of O in, 4118, 4119.

method of sampling for, 3747. spectrographic, 813. of P in, 2166, 4129.

photometric, 1224, 1226, 2644. spectrographic, 3680.

of Si in, photometric, 1226, 4127. spectrographic, 1223. spectrophotometric, 524, 2642, 2994.

of S in, spectrophotometric, 1825, 2646. use of solvent extraction in, 1104.

of Sn in, photometric, 3344. polarographic, 108.

of Ti in, amperometric, 4128. spectrophotometric, 2157, 3750.

of W in, photometric, 1226. spectrophotometric, 2996.

of UO2 in, by X-ray fluorescence, 1227.

of V in, amperometric, 1443. photometric, 109.

spectrophotometric, 465, 2958. of Zr in, 3671.

spectrophotometric, 3749.

extraction of inclusions for analysis, 1521. identification of Cr, Mo and Ni in, electrographic,

industrial analytical methods, review, 2478. phase analysis of Cr - Ni - Ti, 1861.

separation of carbides from, electrolytic, 2992. stainless, analysis of, by X-ray fluorescence, 3342. determination of C in, electrolytic, 2638.

of UO2 in, X-ray fluorescent spectrographic, 1526.

Steeloscope, use and range of, 1054.

Steroids. (See also Corticosteroids.)

aldehydogenic and formaldehydogenic, determination, polarographic, 2749.

analysis of, i.r. spectrophotometric, 3472.

14C, determination, paper chromatographic, 1651. C21, 17:20-dihydroxy-20-methyl-, separation and determination, paper chromatographic, 4269.

C22, separation, chromatographic, 4263. colour and fluorescence reactions of, review, 3860. detection, 954.

paper chromatographic, 667.

determination, in blood, 3476.

i.r. spectrophotometric, anomalous results with potassium bromide disc technique, 3572. oscillopolarographic, 3099.

spectrophotometric, 665.

formaldehydogenic, determination, spectrophotometric, 4266.

17-hydroxy, determination, in plasma, spectrophotometric, 4267. identification, 672.

keto-, determination, spectrophotometric, 2758. 17-, analysis of, 3480.

in urine, i.r. spectrophotometric, purification of extracts for, 1322.

determination, 956. in blood, 1958.

in urine, 1958, 2352.

paper chromatographic, 3478. separation, chromatographic, 2353.

electrophoretic, 2354. from urine, 3866.

paper chromatographic and electrophoretic, 3477.

and determination, in urine, 3867. 17:21-dihydroxy-20-, determination, in plasma, 211.

Δ4-3-, determination, u.v. spectrophotometric, 2355.

ketogenic, 17-, determination, in blood and urine,

separation, chromatographic, review, 4261. paper chromatographic, 1647, 4265, 4270. and determination, chromatographic, 4285. Sterols, detection, in fats, paper chromatographic,

4321. determination, in wool fat, spectrophotometric,

4226. identification, 210.

separation, chromatographic, review, 4261. Stilbamidine, determination, in urine, fluorescent,

Stilbene, analysis of cis-trans mixtures of, u.v. spectrophotometric, 2266.

4-Stilbenylnitrosohydroxylamine, use of, in analysis,

Stilbnaphthazo, use of, as indicator, 1830. Stilboestrol, determination, potentiometric, 3143.

intermediates of, determination, 3886. (See Faeces.)

Streptidine, determination, in streptomycin and dihydrostreptomycin, electrophoretic, 3123. Streptomycin, detection and determination, photo-

metric, 3122. determination, in culture liquids and inter-

mediates, 684. of streptidine in, electrophoretic, 3123.

Strobane, determination, 729. Strontium. (See also Alkaline-earth metals.)

analysis of binary mixtures with Co, Cu, Pb or Ni, potentiometric, 3257.

determination, flame spectrophotometric, 2097. in bone, by neutron activation analysis, 601. in ores, flame photometric, 2906.

Strontium, determination-continued in presence of Ba and Ca, flame photometric.

3634. of *9Sr and 90Sr in natural water, 2013, 3184. of 90Sr in bone, dairy products, plants and soil,

radiochemical, 3433. in milk, by ion exchange, 1129.

polarographic, 1130.

dissociation constant of 90Sr, 1474.

identification and determination of 90Sr in milk. 2785, 4012.

radioactive, determination, in industrial wastes, 1389, 3543.

separation, chromatographic, 4009.

from Ba, Ca and Mg, paper chromatographic, 2908.

from Ca. 1461.

radiochemical, 2542.

and identification, 798.

K-Strophanthin. determination, spectrophotometric, 228.

Strychnal, determination, in presence of thiamine, spectrophotometric, 3879

Strychnic acid, ethylbetaine sulphate of. Struchnal.

Strychnine, determination, 1332

photometric, 1672.

polarographic, 221.

separation, electrochromatographic, 1663.

and determination in pharm. prep., spectrophotometric, 2756.

Styrene, copolymers of, with vinyl cyanide, analysis

of, i.r. spectrophotometric, 4227.

Styrylcupferron. (See 4-Stilbenylnitrosohydroxylamine.)

Sublimation, apparatus for, 3941.

continuous fractional, tube for, 1401.

Subtilin, characterisation and purification, paper electrophoretic, 1674.

Succinates, determination, spectrophotometric, 887. Succinic acid, identification, in plant tissues, paper chromatographic, 4334.

separation, chromatographic, 558, 4181. and determination, paper chromatographic,

4180. and identification, in plasma, paper chromatographic, 3089.

paper chromatographic, 3024. titration of, potentiometric, 1893.

Sucrose. (See also Sugar and Sugars.)

determination, in beverages, 2395.

in refined sugar, 1688. in sugar beet, preparation of samples for, 4306. polarimetric, calculation of results, 1354.

effect of basic Pb acetate soln. on, 4307. separation, from turanose, chromatographic, 4176.

Sugar beet, determination of marc in, 1689. of saponin in, spectrophotometric, 2775. of sucrose in, preparation of samples for, 4306.

polarisation of, determination of lead error in, 258. Sugar cane, determination of 2:2-dichloropropionic acid in, 2426.

juice, determination of ash in, by ion exchange,

Sugar, invert. (See Invert sugar.)

Sugar, raw, determination of saponin in, 1359.

Sugar, refined, analysis of, 1688. colour evaluation of, 3148.

determination of water in, 2773, 2774.

Sugars. (See also Carbohydrates and individual sugars.)

deoxy, detection, paper chromatographic, 557. detection, in boiler-feed water, apparatus for, automatic, 3944.

Sugars, detection-continued in urine, test tablet for, 1601.

paper chromatographic, 865. determination, in blood, 624.

in paper pulp, paper chromatographic, 3417. in sea water, 3920.

spectrophotometric, 125, 3379.

identification and determination, spectrophotometric, 3444, 3445.

reducing, detection, paper chromatographic, 863, 865

determination, 3149.

in blood, spectrophotometric, 2320. paper chromatographic, 864.

separation, paper chromatographic, 866, 1009, 4172.

and determination, in cane products, paper chromatographic, 3511.

Sulphacetamide, determination, 218. in ointments, 3501.

Sulphadiazine, determination, in binary mixtures with other sulphonamides, 4289.

identification, fluorescence microscopic, 4302. separation and identification, electrophoretic, 692.

Sulphadimerazine, separation, electrophoretic, 1978. Sulphadimidine, determination, 1346.

identification, fluorescence microscopic, 4302

Sulphaethylthiadiazole, determination, 1346, 3137. Sulphafurazole, determination, 218.

Sulphaguanidine, separation, paper chromatographic and electrophoretic, 1978. and identification, electrophoretic, 692.

Sulphamate, detection, paper chromatographic, 4077.

Sulphamerazine, determination, in binary mixtures with other sulphonamides, 4289. identification, fluorescence microscopic, 4302.

separation and identification, electrophoretic, 692. X-ray powder diffraction patterns of, 970. Sulphamethazine, determination, in binary mixtures with other sulphonamides, 4289.

hamethiazole, separation, paper chromato-graphic and electrophoretic, 1978. Sulphamethiazole,

Sulphamic acid, determination, 1182. polarographic, 807.

Sulphamide, detection, paper chromatographic,

Sulphanilamide, determination, in binary mixtures with other sulphonamides, 4289.

in serum, spectrophotometric, 3439. preparations of, reactions for, 1661.

separation, paper chromatographic and electrophoretic, 1978.

and identification, electrophoretic, 692.

Sulphanilic acid, determination, 218. Sulphanilylurea, determination, 218.

Sulphapyridine, separation, paper chromatographic and electrophoretic, 1978.

X-ray powder diffraction patterns of, 970. Sulphasolucin, separation, paper chromatographic and electrophoretic, 1978.

Sulphasomidine, identification, fluorescence microscopic, 4302.

Sulphate, detection, paper chromatographic, 2967, 4077

determination, 475, 1495, 1830, 2161, 2968, 2969, 3701, 3702, 4078.

amperometric, 1181. flame photometric, 2970.

interpretation of anomalies in, 4081.

in alumina, amperometric, 1496.

in phosphates, 3703. in soil, 1715, 2023.

Sulphate, determination—continued in water, 1715, 2007, 2008, 2804, 3919.

by ion exchange, 2009. potentiometric, 2415.

i.r. spectrophotometric, 818.

of acid-soluble, in industrial wastes, 2420. potentiometric, 1831, 4080. spectrophotometric, 1829, 2971, 4079.

u.v. spectrophotometric, 2185.

identification, 2197.

separation from tellurate, by ion exchange, 3704. paper chromatographic, 1833.

titration of, spectro - visual determination of endpoint, 817.

Sulphated alcohols, determination of fatty alcohol in, 3413.

Sulphathiazole, determination, in binary mixtures with other sulphonamides, 4289.

separation, paper chromatographic and electrophoretic, 1978.

and identification, electrophoretic, 692. Sulphathiazole sodium, X-ray powder diffraction patterns of, 970.

N-Sulphatoethyl-m-toluidine, use of, in analysis,

Sulphide, determination, 1826, 1827.

comparison of methods for, 474. in air, 1001, 4074.

in industrial wastes, 4074.

A.B.C.M. - S.A.C. recommended methods for, 281.

in mixtures of inorganic S compounds, 2966. in natural water, 3918, 4331.

of S in, by ion exchange, 2183.

photometric, 82.

potentiometric, 4076. metallic, coagulant and precipitant for, 2073.

Sulphides, organic, determination, in petroleum, polarographic, 902.

identification, 3398. Sulphite, determination, in industrial wastes, 3186. in mixtures of inorganic S compounds, 2966. of S in, by ion exchange, 2183.

identification, 1497. separation, paper chromatographic, 1833.

Sulphite liquor, analysis of, chromatographic, 915. Sulphobromophthalein, determination, in serum,

spectrophotometric, 2318. Sulphonamides. (See also individual compounds.) detection, 3135.

determination, 3136.

in blood, spectrophotometric, 3084. polarographic, 249, 2767.

identification, 248.

paper chromatographic, 2385.

separation, paper chromatographic, 1345, 1978. electrophoretic, 1978.

Sulphonation mixtures, aromatic, analysis of, 1568. Sulphonic acids, aromatic, soln. of, determination of free alkali in, potentiometric, 3041.

identification, 2694. Sulphosalicylic acid, separation from salicylic acid, electrophoretic or paper chromatographic, 1559.

Sulphoxides, determination, 897.

Sulphur, coagulant and precipitant for, 2073. colloidal, determination, 473.

determination, 1180, 2964.

by ion exchange, 3700.

comparison of methods for, 474.

in coal, 1290, 2286, 2604. potentiometric, 4215.

in coke, 1290. in glass, potentiometric, 2605.

in hydrocarbons, by "Bremsstrahlung," 1285.

Sulphur, determination-continued

in iron, influence of As on, 3748. spectrophotometric, 1825, 2646.

in iron ores, 2603.

in manganese ores, 2603.

in nickel, 531.

in organic compounds, 544, 2663, 3009, 3364, 3365, 3366, 3768, 3769, 4160.

ignition of samples for, 545. spectrophotometric, 1874.

statistical evaluation of, 850. in organosilicon compounds containing S, 546.

in petroleum, 901, 903, 904, 905.

in presence of PO43-, 2965.

in pyrites, 815. in soil, 3930.

in solid fuel, comparison of methods for, 3804.

in steel, influence of As on, 3748. spectrophotometric, 1825, 2646.

use of solvent extraction in, 1104.

in sulphides, sulphites and thiosulphates, by ion exchange, 2183.

in titanium and titanium alloys, 805.

in viscose, 2716.

in vulcanised rubber, B.S.I. standard for, 3066.

of C in, conductimetric, 81.
of 35S, by scintillation counting, continuous, 2149.

in biological material, 934.

in tissue, 181.

elementary, determination, in acetone soln., polarographic, 814.

in petroleum, polarographic, 587.

in rubber, in presence of S-containing accelerators, 1584. polarographic, 1939.

u.v. spectrophotometric, 472. isotopic measurements of, study of reduction of

samples for, 2184. separation, from petroleum, of S compounds, by liquid thermal diffusion, 1284.

paper chromatographic, 1833. Sulphur dioxide, detection, 2606.

determination, in air, 1828. apparatus for, 3225.

in beer and malt, spectrophotometric, 3162.

in drugs, photometric, 2402. in food, 3524.

photometric, 2402. in fruit juices, 1371.

in gaseous mixtures, u.v. spectrophotometric, 816

in preserved fruit products, 2393.

in wine, 1371, 2398.

Sulphur ointment, determination of CaCO, in, 257. Sulphur, organic compounds of, containing O, i.r. spectra of, 1435.

determination, in petroleum, 1919.

Sulphuric acid, detection, paper chromatographic,

determination, in presence of sulphonic acids, 83.

titration of, potentiometric, 1893. Sulphurous acid, determination of second dissociation constant of, 2187.

Sulphydryl groups, determination, amperometric,

spectrophotometric, 118.

Superoxides, determination of reaction rates of, 784. Surface analysis, apparatus for, 1725.

Surface-active agents. (See also Detergents.) analysis of, paper chromatographic, 3051

anionic and non-ionic, determination, 1925. separation, by ion exchange, 1292.

separation, electrophoretic, 4219.

Surfactants. (See Surface-active agents.)

Sweat, determination of Cl- in, spectrophotometric,

Sweet corn, determination of peroxidase activity of, spectrophotometric, 3514.

Sweet potato, separation of carbohydrates in, paper chromatographic, 1009.

Synovial fluid, separation of uric acid from, electrophoretic, 3441.

Syntans, determination of lignin in presence of, 927. naphthenic, analysis of, paper chromatographic, 1302.

Synthesis gas. (See Gas.)

Systox, determination, in air, 732.

TEL. (See Tetraethyl-lead.)

(See Pyridine nucleotides.)

Tannin, determination, comparison of methods for, 3067, 3068.

in beer and tea, u.v. spectrophotometric, 3525. in wattle, u.v. spectrophotometric, 1301. **Tantalon.** (See N-Benzoyl-N-phenylhydroxylamine.)

Tantalum, bibliography of analytical chemistry of,

detection and determination, in minerals, chromatographic, 1775.

determination, 811.

in niobium, spectrophotometric, 2600, 2961. in niobium pentoxide, spectrographic, 468. in plutonium alloys, spectrophotometric, 810.

in presence of Ti, spectrophotometric, 4073. in Ta - Fe - Nb alloys, 3696.

in uranium alloys, spectrophotometric, 810. in zirconium, spectrophotometric, 2600. simultaneously with Nb, in steel, 4130.

spectrophotometric, 3694.

separation, 3695.

from Nb, 1442, 1821, 1822, 2181, 4072. from Zr, 4072.

in analysis of hard metals, 1482.

of Nb from, 1494. of Ti from, 1442.

Tantalum alloys, determination of W in Ta - U - W, spectrophotometric, 87.

Tantalum pentoxide, determination of Fe, Sn and Ti in, spectrographic, 1442.

Tartaric acid, determination, in wine, comparison of methods for, 704.

photometric, 1892. potentiometric, 3782.

identification, in plant tissues, paper chromatographic, 4334.

separation and determination, paper chromatographic, 4180.

and identification, in plasma, paper chromatographic, 3089.

paper chromatographic, 3024.

Tartronate, determination, in tissues, spectrophotometric, 4232.

Taurine, determination, in urine, spectrophotometric, 1946.

determination of caffeine in, by isotopic dilution, 1369.

Tears, determination of I in, 1306.

Tea-seed oil, detection, in olive oil, 2798.

Technetium, determination, spectrophotometric, 1518.

separation, paper chromatographic, 1211. **Tecnozene.** (See 2:3:5:6-Tetrachloronitrobenzene.) Tellurate, separation, chromatographic, 456.

from sulphate, by ion exchange, 3704.

Tellurite, separation, chromatographic, 456. Tellurium, determination, amperometric, 1443.

in lead and lead alloys, spectrophotometric, 1834

in ores, 4082.

in urine, spectrophotometric, 178.

separation from Cs, Ru and rare-earths, by ion exchange, 821.

Terbium, absorption spectra of, 2144.

Terephthalic acid, determination, in presence of -toluic acid, potentiometric, 574.

Terpin hydrate, determination, 4287. Terramycin. (See Oxytetracycline.)

Terylene, detection, by aminolysis, automatic, 9. Testosterone, determination, u.v. spectrophoto-metric, 2355.

3:4:3':4'-Tetra-aminodiphenyl, use of, in analysis, 1499.

(See 4:4'-Tetramethyldiaminodiphenyl-Tetrabase. methane.)

Tetraborane, determination, 3033.

Tetrabutylammonium iodide, use of, for polarography at negative potentials, 3578.

Tetracaine. (See Amethocaine.)

Tetracene, determination, polarographic, 2699.
1:1:1:2-Tetrachloro-2:2-di(p-chlorophenyl)ethane.

determination, polarographic, 1396

Tetrachloroethane, determination, in mixtures with dichloroethylene and trichloroethylene, mass spectrometric, 4168. 2:3:5:6-Tetrachloronitrobenzene. determination,

in soil, photometric, 292.

Tetracycline, determination, in binary mixtures with chlortetracycline or oxytetracycline, spectrophotometric, 4289. in body fluids, biological, 3082.

spectrophotometric, 3502.

Tetra-ethyl lead, determination, 136.

in hydrocarbons, by "Bremsstrahlung," 1285. in petrol, 906, 3047.

B.S.I. method for, 1281. flame photometric, 3046.

polarographic, apparatus for, 1080.

Tetraethylthiuram disulphide. (See Disulfiram.) Tetrahydrobenzoic acid, amides of, determination, potentiometric, 1678.

1:2:3:4-Tetrahydro-1-methylquinoline, use of, as solvent, 3763.

Tetrahydrostrychnine, use of, in analysis, 3998.

1:4:5:8-Tetrahydroxyanthraquinone, use of, analysis, 1786.

Tetrahydroxybenzoquinone, use of, as indicator, 817. 2:2:6:6-Tetra(hydroxymethyl)cyclohexanol, deter-

mination, 4170. 2:2:6:6-Tetra(hydroxymethyl)cyclohexanone, det-

ermination, 4170 4:4'-Tetramethyldiaminodiphenylmethane, use of, in analysis, 3387

4:4'-Tetramethyldiaminothiobenzophenone, use of, in analysis, 2626, 3339, 3387.

Tetramethylenedithiocarbamic acid, use of, in analysis, 2156.

cycloTetramethylenetetranitramine, detection, 1586.

Tetranitromethane, determination, in HNO₃, potentiometric, 2684. Tetraphenylarsonium chloride, use of, in analysis,

3350. Tetraphenylboron, compounds of, use of, in analysis, review, 3965.

determination of alkali metal compounds of, 1116. Tetraphenylphosphonium chloride, use of, in analysis, 3350.

 $a\beta\gamma\delta$ -Tetraphenylporphine, use of, in analysis, 3280. Tetrapon. (See Opium alkaloids.)

Tetrathionate, determination, in mixtures of in-organic S compounds, 2966.

separation, paper chromatographic, 1833.

Tetrazolium blue. (See Blue tetrazolium.)

1-(5'-Tetrazolyl)-4-amidinotetrazene. (See Tetracene.) Tetroses, identification and determination, spectrophotometric, 3444.

Tetryl, detection, 1586.

Textiles, analysis of, spectrographic, 2715.

determination of cotton and viscose in, 3057. identification of aldehyde - amine finishes on. paper chromatographic, 1579. of resins on, 1931.

Thallium, co-pptn. of, with Mn(OH), 4029.

with sulphides, 1107. detection, in urine, 413.

determination, 1471, 3655, 4030.

electrolytic, 417. fluorimetric, 2918.

in blood and urine, polarographic, 3080. in blood, faeces and urine, photometric, 4229. in indium, polarographic, 57.

of As in, 2954.

paper chromatographic, 1114.

photometric, 414, 418, 2558. polarographic, 415. potentiometric, 3250.

radiochemical, 416, 1787. spectrophotometric, 2141.

polarographic behaviour of, 2142. separation, electrochromatographic, 2892.

Thallous nitrate, use of, in determination of K, 1450. Thebaine, determination, in opium, spectrophoto-

metric, 1666. separation, paper chromatographic, 1328.

2-Thenoylperfluorobutyrylmethane, analysis, 1503. use

2-Thenoyltrifluoroacetone, use of, in analysis, 1503. Theobromine, detection, paper chromatographic, 4190.

determination, 225, 3880. identification, 3587, 3875.

Theophylline, detection, paper chromatographic, 4190.

determination, 225, 959. spectrophotometric, 2762. identification, 3587, 3875.

Thermal analysis, apparatus for, 328, 2848.

automatic, recording, 4379. applications, review, 1072.

differential, apparatus for, 3223. of organic solids, 3957.

review of industrial applications of, 2867. variation of peak temp. with heating rate, 1073.

Thermal conductivity, apparatus for measurement of, 2847.

high-temp., cell for, 4378.

Thermobalance, accessories for, 2063.

automatic, recording, 2064. continuous, recording, 2846. differential, recording, 3956. simple design for, 1071.

Thermogravimetry. (See Thermal analysis.)

Thermostat, with resistance thermometer galvanometer - photocell amplifier, 1741.

Thiacetazone, detection, 1661.

determination, comparison of methods for, 245.

Thiaminase, determination of activity of, spectrophotometric, 723.

Thiamine, determination, 1701, 2410. in cereal products, 3913.

in vitamin B complex, 708. oscillopolarographic behaviour of, 270, 3170. Thiamine thiazolone, determination, spectrophotometric, 1700.

Thiazolidones, 5-amino-, use of, in analysis, 373.

Thioalcohols, determination, 2256.

Thiobarbiturates, determination, 688. polarographic, 235.

Thiochrome, determination, spectrophotometric, 1700

Thiocyanate, determination, 1475, 1476, 2159, 3661. amperometric, 1431.

in industrial wastes, 3186.

in metal-sulphiding baths, 2972.

in presence of Cl- and CN-, spectrophotometric, 507

isoThiocyanates, separation and identification, paper chromatographic, 1273.

Thioglycollic acid, detection, 1577.

Thiol groups, determination, in flour, amperometric,

spectrophotometric, 4164, 4165.

Thiols, detection, 1577 determination, 4192.

amperometric, 3389.

spectrophotometric, 3792.

separation and determination, gas chromatographic and coulometric, 2687 and identification, chromatographic, 3031.

Thio-Michler's ketone. (See 4:4'-Tetramethyldiaminothiobenzophenone.)

Thionyl groups, determination, in organic compounds, 2669.

Thio-oxazolidones, determination, in rape seed, 289. Thiopentone, detection, 1342. determination, 218.

Thiophen, and deriv. of, determination, in presence of unsatd: hydrocarbons, 1909. determination, in petroleum, polarographic, 4212.

nitro deriv. of, determination, in nitrobenzene, spectrophotometric, 1567.

Thiophenols, determination, 2256.

Thiophosphoryl chloride, determination, in air, 3177. Thiosulphate, determination, amperometric, 1431.

in industrial wastes, 3186. in metal-sulphiding baths, 2972.

in mixtures of inorganic S compounds, 2966. of S in, by ion exchange, 2183.

separation, paper chromatographic, 1833. Thiothiamine, determination, spectrophotometric,

1700. Thiourea, determination, 3762, 4185.

amperometric, 1431. polarographic, 4193.

spectrophotometric, 1812. identification and determination, in orange peel, 3522.

Thorium, analysis of, spectrographic, 448. co-pptn. of, with Na2H2P2O4, 2585.

detection, 4052.

by X-ray shadow microscopy, 1067.

determination, 1165, 1166, 1810, 2586, 3300, 3301, 3302, 3674, 3675.

amperometric, 446. by isotope dilution and α-spectrometry, 3725.

in bismuth alloys, by ion exchange, 1819. in minerals, radiochemical, 4097

in ores, spectrophotometric, 2158.

in presence of Ce, 4054. of PO,3-, 72.

in radioactive minerals, 1508.

in Th - Mg alloys, 4053.

in uranium, spectrophotometric, 447. of rare earths in, spectrographic, 1150, 3676.

photometric, 1487. polarographic, 445. Thorium, determination-continued radiometric, 444, 4101. spectrophotometric, 806, 3303. voltammetric, 1745. irradiated, determination of U in, 3334. of 233U in, 2194. isotopic, determination, in sea water, 719. reactions with o-trifluoromethyl-o'-hydroxyazo compounds, 1790. separation, electrochromatographic, 3987.

from Pa, by ion exchange, 2601. from U. 1429.

by ion exchange, 1167.

of U from, 3590.

and determination, by ion exchange, 1164. in bismuth alloys, by ion exchange, 2596. and identification, 798.

Thorium alloys, analysis of Th - B, 3282. of Th - Mg, 4053.

determination of Bi in Th - Bi, photometric, 3298. Thorium oxide, determination of CI- and F- in, spectrographic, 835.

Thorium selenite, investigation of pptn. of, 1193. Thoron, isotope of radon, determination, in air, 1704.

Threonine, determination, by ion exchange, 657. Thrombin, determination, 1655, 2323.

Thyme oil, determination of thymol in, spectrophotometric, 3807

Thymidine, assay of, 3462 Thymol, determination, 4287.

in thyme oil, spectrophotometric, 3807.

Thyroid gland, determination of ¹³¹I in, radio-

chemical, 3431.

Thyrotrophin, assay of, 2733.

Thyroxine, determination, in plasma, paper chromatographic, 641.

in serum, paper chromatographic, 2326.

Tibione. (See Thiacetazone.)

Tin. (See also Stannic and Stannous compounds.) detection, 3293.

fluorimetric, 2933. of Sn²⁺, 2568.

determination, in copper, polarographic, 108. in food, oscillopolarographic, 2772.

in industrial wastes, spectrophotometric, 1006.

in iron, photometric, 3344. polarographic, 108.

in lead, spectrophotometric, 432. in lead alloys, polarographic, 434. in presence of Sb, 2569.

and Pb, by ion exchange, 3687.

of Cu, photometric, 77. in steel, photometric, 3344.

polarographic, 108.

in tantalum pentoxide, spectrographic, 1442. in Sn - SnO - SnO₂ mixtures, 2936. in titanium and titanium alloys, 1804.

in type metal, 3665.

in uranyl sulphate soln., polarographic, 433.

in zinc, spectrophotometric, 432.

in zirconium, 1486.

in zirconium alloys, 1157, 1486. polarographic, 2937.

of Bi in, photometric, 2957, 3314. of Cu in, spectrophotometric, 3621.

of tin as sulphide in ores, 2935.

polarographic, 2934.

spectrofluorimetric, 804.

separation, electrochromatographic, 3987. from Sb, by ion exchange, 3664.

from Co, Cu and Fe, by ion exchange, 782. of Nb from, 1494.

use of, as reducing agent, in glacial acetic acid, 766.

Tin alloys, analysis of, 3990. spectrographic, 1805, 2221. determination of Pb in Sn - Sb - Pb, 3295.

Tin-plate, determination of surface oxides on, coulometric, 2570.

Tiron, use of Fe3+ complex of, as acid - base indicator, 2079.

Tissue. (See Animal tissue; Biological tissue; Plant tissue.)

Titanium, analysis of, spectrographic, 2580, 3296. colour reactions with phenols, 1807.

detection, 65. in presence of Cr, 3670.

and determination, in minerals, chromatographic, 1775.

determination, 2574.

in aluminosilicates, polarographic, 4025.

in bauxite, spectrographic, 409. in chromium and Cr - Fe alloys, spectrophotometric, 2157.

in coal ash, 4044. in dust, 2515.

in fuel ash, photometric, 3006.

in iron, spectrophotometric, 2157. in iron alloys, photometric, 2156.

spectrophotometric, 2157. in Fe - Nb - Ta alloys, 3696. in iron ores, photometric, 2156.

in kaolin, spectrographic, 1217. in manganese and manganese alloys, spectrophotometric, 2157.

in presence of Al. 4045.

of Nb, spectrophotometric, 4046. in sand, 1161.

in silicates, spectrographic, 1156. in silicon, spectrophotometric, 2157.

in steel, amperometric, 4128. spectrophotometric, 2157, 3750.

in tantalum pentoxide, spectrographic, 1442.

in uranium, spectrophotometric, 441. of Al in, 2136, 3297.

of Ca in, spectrophotometric, 3297. of C in, 442, 1800, 2942, 3678.

simultaneously with H, 2943. of H in, 2154, 2941. by vacuum fusion, 4047. simultaneously with C, 2943.

with O, 2946 of Fe in, spectrographic, 1859. of Mg in, 2535.

spectrographic, 1859. spectrophotometric, 3297.

of Mn in, 2206.

of N in, 2154, 2944, 3678. of O in, 1483, 1824, 2154, 2578.

by vacuum fusion, 4047.

conductimetric, 2945. review, 3669.

simultaneously with H, 2946. spectrographic, 2155. of S in, 805.

of Sn in, 1804.

of Ti^{III} in presence of Fe^{II}, 440. polarographic, 2576.

spectrophotometric, 1808, 2575, 2940, 4042. X-ray spectrographic, 4043.

separation, electrochromatographic, 3987.

from Cr, by ion exchange, 439. from Fe, electrolytic, 2579. from Mo, by ion exchange, 2577. from Nb and Ta, 1442. from Sc, by ion exchange, 3656. Titanium, separation-continued

from V, by ion exchange, 2577, 3656. in analysis of hard metals, 1482.

of Nb from, 1494.

Titanium alloys, analysis of, 3989.

spectrographic, 2582.

determination of B in, by ion exchange, 1144. of C in, 442, 1800, 2942.

simultaneously with H. 2943. of H in, 2941.

simultaneously with C, 2943.

of Mo in, 482.

of N in, 2944. of O in, 1824.

spectrographic, 2155.

of S in, 805.

of Sn in, 1804.

of W in, spectrophotometric, 2996.

of Zr in, 4048.

phase analysis of, 3668.

of Ti - Fe - Ni, effect of temp. on, 1858.

Titanium dioxide, analysis of, 1162.

determination, in glass, B.S.I. method for, 1238. of P and Si in, spectrographic, 2581.

Titanium oxycarbides, determination of O in, by radiation measurements, 3699.

Titanium sponge, preparation of samples for analysis, 2573

(See Volumetric analysis.) Titrations.

Tobacco, determination of carcinogenic substances in, mechanical smoking device for, 4367.

of chlorogenic acid in, 2759.

of nicotine in, 1333. polarographic, 3497.

of nicotyrine in, 3113.

of steam-volatile acids in, chromatographic, 3114. identification of carbohydrates in, i.r. spectro-

photometric, 1549. organic acids in, separation, chromatographic, 558.

root, analysis of, paper chromatographic, 958. Tobias acid, analysis of, 593.

Tocopherol. (See also Vitamin E.)

determination, in liver, 3169.

in maize oil, spectrophotometric, 2000.

in oxidised fats, 1999. separation of α-, β-, γ- and δ-, chromatographic,

and determination, chromatographic, 3923.

unoxidised, determination, in milk fat, 3520. Tolazoline, determination, 225, 2764.

spectrophotometric, 3509. Tolbutamide, determination, in serum, spectrophoto-

metric, 3827. o-Tolidine, identification, 1561.

-Tolualdehyde, determination, photometric, 2235. Toluene, determination, in 1-chloropent-1-en-3-one,

i.r. spectrophotometric, 3817. in methylcyclohexane, i.r. spectrophotometric, 4227.

of benzene and cyclohexanol in, gas chromatographic, 3564.

of Cl in, amperometric, 1918.

Toluene-3: 4-diacetyldithiol, use of, in analysis, 2073. Toluene-3:4-dithiol, stability of aq. alkaline soln. of, 2871.

use of, in analysis, 2073.

zinc complex of, use of, in analysis, 1814.

Toluene-p-sulphonic acid, use of, in analysis, 954. Toluic acid, esters of, analysis of, i.r. spectrophotometric, 1269.

p-, determination, in presence of terephthalic acid, potentiometric, 574. separation, paper chromatographic, 4202.

Toluidines, isomeric, identification, 1561.

separation and identification, paper chromatographic, 888.

Tolyl methyl ethers, separation, gas - liquid chro-

matographic, 4201.

Tolylarsonic acids, pptn. of metals with, 3988.

Tolylene-2: 4-diamine, identification, 1561. 2-p-Tolylimino-4-thiazolidone, use of, in analysis,

p-(p'-Tolylsulphonamido) phenyl-p-toluidine, separation and determination, in rubber, paper chromatographic, 3816.

Tooth enamel, determination of F- in, by isotopic dilution, 2625.

Tourmaline, determination of B in, spectrophotometric, 3645.

Town gas. (See Coal gas.)

Toxaphene, determination, 729.

Toxicology, extraction technique for, 1687. Trade effluents. (See Industrial wastes.)

Tragacanth, identification, 2299.

Tral. (See Hexocyclium methylsulphate.)

Transaminase, determination of activity of, in serum and plasma, 678.

glutamic - oxalacetic, determination of activity of, in serum, 3102.

spectrophotometric, 1659.

glutamic - pyruvic, determination of activity of, in serum, 3102.

pyridoxamine pl activity of, 214. phosphate, determination of

Transphosphorylase, adenosine triphosphate adenosine monophosphate, determination of activity of, 215.

Trasentin. (See Adiphenine hydrochloride.)

Tribenzylamine, use of, as acid extractant, 1261. Tribromoanthrarufin, use of, in analysis, 796.

Tributyl phosphate, determination, 2259. in kerosine soln., photometric, 1924.

Tributyrinase. (See Lipase.)

Trichloroacetic acid, determination, in body fluids,

1:1:1-Trichloro-2:2-di-(p-chlorophenyl)ethane. (See DDT

2:2:2-Trichloro-1:1-di-(p-chlorophenyl)ethanol, determination, in lemons, oranges and citrus

cattle-food, 2028. spectrophotometric, 1723, 1724.

Trichloroethanol, determination, in body fluids, 183. Trichloroethylene, determination, in mixtures with dichloroethylene and tetrachloroethane, mass spectrometric, 4168.

N-Trichloromethylthiocyclohex-4-ene-1: 2-dicarb-

oxyimide. (See Captan.)
Trien. (See Triethylenetetramine.)

Triethanolamine, determination, 3029.

Triethylaluminium, determination of diethylaluminium hydride and ethoxide in, i.r. spectrophotometric, 1587.

Triethylamine, separation from mixtures with ethanol, methyl cyanide and water, gas chromatographic, 2228.

Triethylene glycol, determination of density and refractive index of aq. soln. of, 1252.

Triethylenetetramine, use of, in analysis, 2115, 2511, 2522.

oo-Trifluoromethyl-o'-hydroxyazo compounds, reactions with alkaline-earth metals, Al, Th, U and Zr. 1790.

Triglycerides, determination, in serum, 647.

Tri-iodothyronine, determination, in plasma, paper chromatographic, 641.

in serum, paper chromatographic, 2326. Trilon B. (See Ethylenediaminetetra-acetic acid.) Trimeperidine, reactions with alkaloidal reagents,

cycloTrimethylenetrinitramine, detection, 1586. Trimethylolethane, determination, in alkyd resins, 921

2:4:7-Trinitrofluorenone, use of, in analysis, 3040. 2:4:6-Trinitrophenylmethylnitramine. (See Tetryl.) Trinitrotoluene, determination, 3421.

Tri(isooctyl)amine, use of, for extraction of Pu and U. 3332

Trioctylphosphine oxide, use of, in analysis, 3322. Triphenylmethane dyes. (See Dyes.)

Triphenylmethylarsonium chloride, use of, in analysis, 3350.

Triphosphate, determination of pyrophosphate in,

by ion exchange, 73.

Triterpene acids, detection, paper chromatographic, 4207.

Tritium, analysis of T-labelled organic compounds, gas chromatographic, 3373.

determination, 2102 in liquids, 1778. in urine, 2309.

radiochemical, 1446.

use of external cathode counters for, 3603. solid, determination of absolute activity of, 3602.

Tritolyl phosphate, revised B.S.I. standard for, 1901. Triton X-100, determination, u.v. spectrophotometric, 168.

Triuranium octoxide. (See Uranium oxides.)

Tropane alkaloids, determination, spectrophotometric, 3493.

Tropine, determination, paper chromatographic,

Trypsin, determination of activity of, spectrophotometric, 3870.

Tryptophan, determination, in proteins, spectrophotometric, 204.

separation from histidine, paper chromatographic, 2337.

Tungstate, separation, electrochromatographic, 3712. titration of, radiochemical, 823.

Tungsten, determination, 1835, 3717, 4089.

in alloys, 2099.

in presence of Fe, spectrophotometric, 2213. of Ni, amperometric, 3715.

in steel, 3989.

photometric, 1226.

spectrophotometric, 2996.

in titanium alloys, spectrophotometric, 2996.

in W - Ta - U alloys, spectrophotometric, 87. in wolframite and scheelite, potentiometric,

of H, N and O in, 484.

spectrophotometric, 485, 486, 3716. separation, 3695.

Tungsten alloys, determination of Ti in W - Fe, spectrophotometric, 2157. of W in W - U - Ta, spectrophotometric, 87.

separation of Bi, Cd, Pb and Zn from, by co-pptn., 2549.

Tungsten carbide, determination of particle size of, by reflectivity, 3.

Tungsten ores, determination of Mo in, spectrophotometric, 481.

Tungstic acid, separation of impurities from, by high-voltage electro-dialysis, 2931.

Turanose, separation, from sucrose, chromatographic, 4176.

Turmeric, detection, in presence of other spices, paper chromatographic, 993.

Tweens. (See Polyethylene glycols.)

Type metal, analysis of, polarographic, 2593. spectrographic, 1805.

determination of Sb and Sn in, 3665.

Tyramine, determination, photometric, 2380. Tyrosine, detection, paper chromatographic, 950. determination, 2341.

in plasma and tissue, fluorimetric, 2739.

in protein hydrolysates, 203.

in proteins, spectrophotometric, 204.

in urine, 202. photometric, 4256. polarographic, 1317.

U

Ultracentrifuge, 1032.

(See Microchemical analysis.) Ultra-micro analysis. Ultra-violet spectrophotometry. (See Spectrophotometry, absorption.)

Ulvir analyser, u.v. applications of, 1725.

Y-Undecanolactone, separation, paper chromatographic, 2241.

Uracil, separation and identification, paper chromatographic, 633.

Uranium, analysis of fission products of 235U, yspectrometric, 1841.

spectrographic, 1844.

use of Ga₂O₃ as carrier in, 1504. apparatus for ether extraction of, 3562.

detection, 2612, 4052, 4091.

by X-ray shadow microscopy, 1067. determination, 2613, 2980, 3330, 3719.

by ion exchange, 3724. by isotope dilution, 1190.

and α -spectrometry, 3725. by luminescence, 2977.

coulometric, 499. fluorimetric, 1187, 1842, 2614.

in bismuth alloys, 1843. by ion exchange, 1819.

in fuel elements, by X-ray emission spectrography, 3722.

in irradiated thorium, 3334.

in meteorites, radiochemical, 3723.

in minerals, by luminescence, 1502. fluorimetric, 2621.

polarographic, 494. radiochemical, 4097. in natural water, fluorimetric, 1385.

paper chromatographic, 2010. in ores, spectrographic, 493.

in organic-solvent soln., spectrophotometric, 2618.

in presence of Fe, 2620.

of Mo, polarographic, 3327. of V, coulometric, 4096.

in process streams, continuous, apparatus for, 2619.

in radioactive minerals, 1508.

in rocks, fluorimetric, 2621. review, 825.

in U - Al alloys, by γ-counting, 3335.

of gases in, 1101. apparatus for, 2065.

of phosphate in, 4062.

of ratio of U to Pu, in pitchblende, 3727. of Th in, spectrophotometric, 447.

of Ti in, spectrophotometric, 441. of 233U in irradiated thorium, 2194.

of 235U, by gamma scintillation spectrometry

by neutron activation analysis, 2979. spectrographic, 3325, 3328, 3329.

Uranium, determination—continued of V in, amperometric, 827. photometric, 4093. polarographic, 2615, 3721, 4095. potentiometric, 3333. radiochemical, 1191, 4094, 4101. spectrographic, 2616. spectrophotometric, 90, 491, 497, 1503, 1840, 2193, 3303, 3324, 3720, 4092. u.v. spectrophotometric, 88. X-ray spectrometric, 495, 1188, 2617. electro-deposition of, 89. extraction from HCl soln., 3332. identification of fission products of, paper chromatographic, 826. isotopic, analysis of, 496. of 235U - 238U, spectrographic, 3326. spectrographic, 1505. masking of, in complexometric titrations, 2981. polarographic behaviour of, 2142. in presence of cupferron, 824. pptn. of sparingly sol. compounds of UIV, 488. reactions with o-trifluoromethyl-o'-hydroxyazo compounds, 1790. separation, 490, 3323, 3718, 4099. by internal electrolysis, 1197. by ion exchange, 489. from fission-product mixtures, by ion exchange, 1198. from Fe, 492. from mixtures with Br, BrF3 and UF4, 1194. from Nb and Ta, 1196. from rare earths, 828 by ion exchange, 829. from Th, 1429, 3590. by ion exchange, 1167. from V, 492. by ion exchange, 1195. of Ce and Eu from, 831. and detection, paper chromatographic, 1186. and determination, 2191. in bismuth alloys, by ion exchange, 2596. solvent-extraction of, apparatus for, automatic, study of complex with 2-hydroxy-m-toluic acid, 4098. Uranium alloys, analysis of U - Bi, 79. of U - B, 3282. of U - Pt, 1235. determination of Bi in, 79. of B in, 1145, 3282

of Ca and Zr in U - Bi, spectrographic, 3278. of Mg, K and Na in U - Bi, spectrographic, 3315. of Mo in U-Mo, by monochromatic X-ray absorption, 1184. conductimetric, 1500. of Nb in, spectrophotometric, 3318. in U - Nb, 3262 of Pt in, 1234, 1235. of Si in, 3262 of Ta in, spectrophotometric, 810. of Sn in, 1157. of W in U - Ta - W, spectrophotometric, 87. of U in U - Al, by γ-counting, 3335. Uranium hexafluoride, determination, 3331. Uranium oxides, determination of Cl- and F- in U₃O₈, spectrographic, 835. of O to U atomic ratio in, 1192. of UO, in stainless steel, X-ray fluorescent spectrographic, 1526. in steel, by X-ray fluorescence, 1227.

Uranium tetrafluoride, determination of F- in, by ion exchange, 4107.

Uranyl fluorides, analysis of, 1507. Uranyl ion, determination, photometric, 1189. spectrophotometric, 2978. separation, electrochromatographic, 3987. from Bi, Fe, Pd and Pt, electrophoretic, 3261. Uranyl nitrate, determination of free HNO, in, by ion exchange, 91. extraction, influence of temp. on, 830. soln. of, determination of Zr in, spectrophotometric, 443. Uranyl oxalate, analysis of, u.v. spectrophotometric, 2192 Uranyl selenite, investigation of pptn. of, 1193. Uranyl sulphate, soln. of, determination of Cu in, 372 of free acid in, 498. of Sn in, polarographic, 433. Urea, determination, 4185. in blood, 1603. turbidimetric, 1604. in injections containing NH4+, 4286. in urine, 1603. photometric, 133. separation and identification, electrophoretic, 636. soln. of, titration of, 3972. Urea - formaldehyde resins. (See Resins, synthetic.) Uric acid, detection, paper chromatographic, 4190. determination, 186. in bile, by ion exchange, 635. in plasma, comparison of methods for, 634. in serum, spectrophotometric, 2328, 3831. in urine, 4234. separation, from serum and synovial fluid, electrophoretic, 3441. and determination, in plasma, paper chromatographic, 4235. in urine, 4236. and identification, in plasma, paper chromatographic, 3089. Uridine 5'-pyrophosphate, determination, spectrophotometric, 4244. Urine, analysis of 17-oxosteroids in, i.r. spectrophotometric, purification of extracts for, 1322. detection of albumin in, tablet for, 2350. of bile in, 638. of bilirubin in, 4238. furan-2:5-dicarboxylic acid in, chromatographic, 944. of glucose in, 623, 937. of oestrogens in, 3865. of proteins in, 1602 of sugars in, test tablet for, 1601. and determination of porphobilinogen in, 1606. of pregnane-3a: 17a: 20a-triol-11-one in, fluorimetric, 1653. determination of adrenaline in, 632. fluorimetric, 4241. of aromatic nitro compounds in, 4205. of As in, spectrographic, 1944. of barbiturates in, u.v. spectrophotometric, of Ca in, 3076, 3820. flame photometric, 933, 3073. of catecholamines in, spectrofluorimetric, 2319. of chloral hydrate, trichloroacetic acid, trichloroethanol and urochloralic acid in, 183. of chlorpromazine in, 1599. spectrophotometric, 3826. of Cu in, paper chromatographic, 3614. spectrophotometric, 1943. of corticosteroids in, 1959.

of dehydroepiandrosterone and epiandrosterone

of F- in, comparison of methods for, 836.

in. 671.

Urine, determination-continued

of glucose, glucuronic acid and xylose in, photometric, 1609.

of β -glucuronidase activity in, 3101.

of gonadotrophins in, 3453, 3454.

of hippuric acid in, spectrophotometric, 1308. of 17-hydroxycorticosteroids in, 3479.

spectrophotometric, 4268.

of 5-hydroxyindolylacetic acid in, interference from phenothiazine deriv. in, 3448.

of hydroxykynurenine in, spectrophotometric, 1605.

of p-hydroxypropiophenone in, photometric, 622.

of hydroxytyramine in, 632.

of iminazolylacetic acid in, paper chromatographic, 941.

of inulin in, 3088.

of I- in, spectrophotometric, 610.

of ketones in, spectrophotometric, 1607, 2321. of kynurenic acid in, fluorimetric, 3843.

of Pb in, spectrophotometric, 3429.

of lipase activity in, 3872.

of Mg in, 3076.

spectrophotometric, 1589.

of meprobamate in, spectrophotometric, 2317.

of Hg in, 3822.

of 2-methylpentane-2:4-diol in, spectrophotometric, 3828.

of morphine in, paper chromatographic, 2315.

of noradrenaline in, 631, 632.

fluorimetric, 4241 of oestrogens in, 212.

review, 3474.

of 17-oxogenic steroids in, 1958.

of 17-oxosteroids in, 1958, 2352. paper chromatographic, 3478.

of pH of, 173.

of phenylalanine in, 3845.

paper chromatographic, 3461. of phenylpyruvate in, 3845.

spectrophotometric, 2322.

of 210 Po in, 3434.

of K in, flame photometric, 933, 3073. of pregnanediol in, spectrophotometric, 1652, 3485.

of pregnanetriol in, 3864. comparison of methods for, 2751.

of pyrazinamide in, 1945.

of pyrogallol in, spectrophotometric, 4242.

of riboflavine in, fluorimetric, 4237.

of Na in, flame photometric, 933, 3073.

of specific gravity of, 600.

of taurine in, spectrophotometric, 1946.

of Te in, spectrophotometric, 178

of tetracycline and deriv. in, biological, 3082.

of Tl in, photometric, 4229. polarographic, 3080.

of T in, 2309.

of L-tyrosine in, 202.

of urea in, 1603.

of uric acid in, 4234.

of xanthurenic acid in, fluorimetric, 3843.

identification of barbiturates in, paper chromatographic, 969.

and determination of phenols in, 3449.

preservative for, 3424.

separation of amino acids in, paper chromatographic, 1624.

of p-hydroxyphenylpyruvic acid from, paper chromatographic, 3447.

of 131 I-labelled compounds from 131 I- in, chromatographic, 609.

of organic acids in, chromatographic, 1611.

Urine, separation-continued

of 17-oxosteroids in, 3866.

paper chromatographic and electrophoretic, 3477.

and determination of aldosterone in, 1324.

of aspartic, cysteic and glutamic acids in, by ion exchange, 3094.

of caffeic acid in, 4242.

of 3:4-dihydroxybenzoic acid in, 4242. of gallic acid in, 4242.

of 17-oxosteroids in, 3867.

of porphyrins in, electrophoretic, 3833.

of uric acid in, 4236.

of xanthines in, 4236.

and identification of aliphatic alkyl amines in,

Urochloralic acid, determination, in body fluids, 183. Uronic acids, determination, spectrophotometric, 125.

Vacuum gauge, 741.

Valeric acid, separation, paper chromatographic,

Valve, for manipulation of mercury, 2434.

Vanadium, detection, 3693. determination, 1820, 2597.

amperometric, 827, 1176.

coulometric, 4007.

in aluminium, photometric, 3317. spectrographic, 54.

in fuel ash, 3006.

in graphite, radiochemical, 1175.

in iron, spectrophotometric, 465.

in iron alloys, 1174.

in natural water, spectrophotometric, 3185.

in plant materials, polarographic, 2019.

in presence of U, coulometric, 4096.

in steel, amperometric, 1443. coulometric, automatic, 4131.

photometric, 109. spectrophotometric, 465.

in triheteropoly acids, 4071.

in V - Al alloys, spectrophotometric, 1436.

of As in, 2954.

photometric, 464.

photonometric, 3316. polarographic, 809.

potentiometric, 2180.

simultaneously with Cr, potentiometric, 3710. spectrophotometric, 463, 2178, 2179, 2959,

2960, 3716, 4070.

extraction, as 8-hydroxyquinolinate, 2598.

from biological material, 608.

separation from Sc and Ti, by ion exchange, 3656. from U, by ion exchange, 1195.

of carrier-free, from cyclotron targets, by ion

exchange, 3581. and determination, spectrophotometric, 2958.

Vanadium alloys, determination of Ti in V - Fe, spectrophotometric, 2157.
of V in V - Al, spectrophotometric, 1436.

Vanilla, extracts of, analysis of, losses from use of lead reagent in, 3905.

Vanillin, detection, 1266.

in foodstuffs, paper chromatographic, 991. determination, 3904.

nephelometric, 2236.

photometric, 2235.

spectrophotometric, 1907.

u.v. spectrophotometric, 139. polarographic behaviour of, 705.

isoVanillin, polarographic behaviour of, 705.

Vapour pressure, determination, 313.

Variamine blue, use of, as colorimetric reagent, 464. as redox indicator, 2547.

Varnish, analysis of, A.S.T.M. progress report on, 1935.

i.r. spectrophotometric, 172.

identification of fatty acids in, paper chromatographic, 2306.

Vasopressin, prep. of, assay of oxytocin in, 3504. Vegetable oils. (See Fatty oils.)

Vegetables, analysis of, 2393.

Veratrum alkaloids, determination, oscillopolarographic, 1664.

Veritol. (See Pholedrine.) Versene. (See Ethylenedia (See Ethylenediaminetetra-acetic acid.)

Vetiver oil, B.S.I. specification for, 3414.

Vinegar, detection of amino acids in, paper chromatographic, 2400.

Vinyl acetate, determination, in copolymers, spectrophotometric, 3060.

of methanol and methyl acetate in, i.r. spectrophotometric, 1884.

Vinyl chloride, analysis of, mass spectrometric, 3375. Vinyl cyanide, copolymers of, with styrene, analysis of, i.r. spectrophotometric, 4227.

determination, 566, 1899.

in industrial wastes, polarographic, 715.

polarographic, 567. potentiometric, 3783.

Vinylacetylene, determination of Cu+ in manufacture of, 1783.

Vinylidene chloride, analysis of, mass spectrometric, 3375.

Viomycin, detection and determination, photometric, 3122.

Viscometer, capillary, for liquids unstable in air,

for polymer soln. at high temp., 3566.

for use up to 5×10^7 poises, 1048.

high-temp., 4366.

rotation, for low-viscosity liquids, 1736.

Viscose, analysis of mixtures with cotton, 3059. determination, in textiles, 3057.

of lignin in, 2717.

of S in, 2716.

of xanthate in, 4218.

of xanthate sulphur in, u.v. spectrophotometric,

Viscosity, determination, revised B.S.I. standard for, 1407.

relation between kinematic and Redwood No. 1 seconds, 740.

between kinematic and Saybolt Universal, 739. Vitamin A, determination, in cod-liver oil, review, 1699

in fish-liver oil, spectrophotometric, conversion factors for, 267.

in liver, 3169.

in plasma, photometric, 3836.

in serum, photolytic, 3837.

paper chromatographic, 1997. spectrophotometric, 1996, 3532.

evaluation of intermediates in synthesis from citral, polarographic and spectrographic, 2294. separation, chromatographic, determination of activity of adsorbent for, 997.

reduction of losses in, 3912. from fish oil, paper chromatographic, 1994. from vi.amin D, chromatographic, 268.

of alcohol, acetate and palmitate of, chromatographic, 4322.

of isomers of, chromatographic, 2799.

Vitamin A2, u.v. spectrum of, 269.

Vitamin B1. (See Thiamine.)

Vitamin B2. (See Riboflavine.)

Vitamin B6. (See Pyridoxine.)

Vitamin B12. (See also Cyanocobalamin.) assay of, in clinical analysis, review, 3835.

inhibition of growth response in, 996. determination, 3534, 3535.

in serum, biological, 3838.

in urine, radiochemical, 3079. of protein-bound, 193.

Vitamin D, determination, 998, 999.

separation, chromatographic, determination of activity of adsorbent for, 997. from vitamin A, chromatographic, 268.

Vitamin D2. (See Ergocalciferol.)

Vitamin D3. (See Cholecalciferol.)

Vitamin E. (See also Tocopherol.)

identification, in fish oil, paper chromatographic, 1994.

Vitamin K1, determination, in plant material, spectrophotometric, 3916. spectrophotometric, 3915.

Vitamin K3. (See Menaphthone.)

Vitamins, assay of, in clinical analysis, review, 3835. Volatile oils, B.S.I. specifications for, 3414.

determination of carvone, cinnamaldehyde or citral in, spectrophotometric, 2712.

of phenols in, potentiometric, 2711. formulae for determination of alcohols in, 2708. and esters in, 1926, 2709.

separation, gas - liquid chromatographic, 4217. paper chromatographic, 3052.

Volumetric analysis, acid - base, methods for, 1749. non-aq., review of industrial applications of,

titration of aprotic acids in, 2503.

use of polarisation voltage titrations in, 2467. argentimetric, detection of end-point in, 2084. use of polarisation voltage titrations in, 2467.

automatic, applications, 9.

titrator for, 4355. by radiometric extraction, 345.

calculation of titration curves in, 2487.

cerimetric, induced reactions in, 342. iodimetric, determination of end-point with u.v.

light in, 2488. use of absorptiometry in, 1759.

of CuO as standard for, 2083.

non-aq., of inorganic compounds, review, 20. review, 773.

photonometric, determination of Cr and V by, 3316.

primary standards for, 2082.

redox, evaluation of poising capacity of couples in, 2085. use of brazilin as indicator in, 8.

of sodium triphosphate as masking agent in. 3196.

review of industrial applications of, 2867.

spectro - visual method for determining endpoints in, 817.

thermometric, apparatus for, 1744. Volumetric analysis, amperometric, apparatus for,

1418. dead-stop end-point, theory of, 4400.

review, 4392.

of industrial applications of, 2867. study of behaviour of certain metals as microelectrodes in, 4401.

theory of titration curves, 2858.

use of non-polarisable electrodes in, 4391.

of rotated dropping-mercury electrode in, 3232. with a.c., 1750.

Volumetric analysis, chronopotentiometric, at solid electrodes, 2856. in fused LiCl - KCl, 2857.

limitations of method, 1086. micro-, 1661.

Volumetric analysis, complexometric, conditions for visual titrations in, 2493.

determination of stability constants of complexes, potentiometric, 2873.

methods for end-point detection in, 2491.

primary standards for, 2494.

reviews, 2492, 2872.

theory of visual end-point detection in, 344. with potentiometric end-point detection, 1728, 3580.

Volumetric analysis, conductimetric, high-frequency, applications, 2861.

in anhyd. medium, apparatus for, 2860. of metals, with NaHS, 2512.

review, 4390.

titrimeter for, 2859, 4393, 4394, 4395, 4399. with a balanced circuit, 2468.

review, 2501.

Volumetric analysis, coulometric, apparatus for, 4396.

for current integration with permanent magnet d.c. motors, 4397.

applications, 2875.

calibration of integrating motor for, 333.

current- and voltage-stabiliser for, 759. reviews, 2853, 3251.

of industrial applications of, 2867.

titrations with Hg, 4076.

titrimeter for, continuous, automatic, 4386.

use of electrolytically generated MnO₄- in, 1851. Volumetric analysis, potentiometric, acid - base, in mixtures of formic acid with benzene, 7.

anodic-stripping, use of, in analysis of metal soln., 1745.

apparatus for, 2463.

at const. intensity, 2855. behaviour of Fe^{II} - Fe^{III} and Ce^{III} - Ce^{IV} couples in, 2466.

determination of end-points by interpolation,

differential electrolytic, applications to redox titrations, 2874. non-aq., choice of solvent and titrant for, 2502.

review, 1761. of weak acids, 1762.

polarisation voltage technique for, applications,

review of industrial applications of, 2867.

semi-micro, apparatus for, 2068.

suction-operated differential electrode system for,

titrator for, automatic, 4389.

universal titration console for, 299.

use of buffered paper strips in, 4398. of gold electrodes in, 3579.

of permselective membrane electrodes in, 4388. of rotating platinum-wire electrode in, 2854.

of zinc phosphate electrode in, 758.

Vulcanisation accelerators. (See Rubber.)

Warfarin, determination, 1008. spectrofluorimetric, 3556. separation and identification, paper chromatographic, 2810. Washed flock, B.S.I. standard for, 916.

Water. (See also Karl Fischer reagent: Moisture.) analysis of, isotopic, 353, 714, 1111. spectrographic, 355.

apparatus for production of large amounts of pure, 3194.

determination, apparatus for, 2033. automatic, 2465.

for end-point indication, 1419. by polarisation voltage titration, 2467.

in catalysts, mass spectrometric, 3994. in concrete, apparatus for, 337.

in minerals, 2101.

in organic compounds, automatic, 9.

in pharm. prep., review, 4272.

micro-, vacuum drying ovens for, B.S.I. standard for, 2032.

modification of Beckman Aquameter for, 2034. of D in, by exchange equilibrium, 1777.

by freezing-point, 354. by zinc decomposition, 1777.

of total, in the body, 2724. use of formamide in, 868.

distilled, quality control of, 1447.

i.r. spectra of H2O - D2O mixtures, 1435.

of crystallisation, determination, and differentiation from moisture, 1112.

separation during organic reactions, apparatus for, 2835.

titration with acetic anhydride, 563.

Water, boiler, analysis of, 2418.

and treatment of, B.S.I. standard for, 2807. detection of sugars in, apparatus for, automatic,

determination of CO2 in, 2005. of O in, apparatus for, 1020.

Water, heavy. (See Deuterium oxide.)
Water, natural, analysis of, by ion exchange, 2002. of organic substances in, 2417.

spectrographic, 1383. use of Ce(SO₄)₂ in, 276.

of ionites in, 1387.

detection of halogens in, 2011.

determination of alkali metals in, polarographic, 2414.

of Al in, spectrophotometric, 2006. of B in, spectrophotometric, 1793.

of Br- and Cl- in, 2202.

of bromoamine and chloroamine in, 2806. of Ca in, flame photometric, 1382.

photometric, 3537. comparison of methods for, 3181.

coulometric, 2416.

of C.O.D. of, 278, 279.

comparison of methods for, 3181. coulometric, 2416.

of Cl- in, 2202.

potentiometric, 2415.

spectrophotometric, 2201, 4329. of colour and turbidity of, photometric, 3178.

of dissolved O in, 1002, 3320.

amperometric, 277.

gasometric, 1709. influence of Cl- on, 2004. of Fe on, 2003.

polarographic, 3180. potentiometric, 3179.

of F- in, 3182, 3539. of hardness of, conductimetric, 1384. polarographic, 2414.

of hydrocarbons in oysters polluted, from, 1004.

of H₂O₂ in, 3320. of I in, 4330.

of NO₃ in, photometric, 1003. potentiometric, 2415.

Water, natural, determination-continued

of persulphate in, 3320.

of phenols in, comparison of methods for, 1007.

of P in, spectrophotometric, 2805, 3183.

of K in, flame photometric, 286.

of radioactive Cs in, 717. of radioactivity of, 3540.

of Ra in, 1386.

of Ag in, 1708.

of Na in, flame photometric, 286. flame spectrophotometric, 713.

of ⁸⁹Sr and ⁹⁰Sr in, 3184. of SO₄²⁻ in, 1715, 2007, 2008, 2804.

by ion exchange, 2009. conductimetric, 3919. potentiometric, 2415.

spectrophotometric, 4079.

of sulphide in, 3918, 4331.

of trace metals in, spectrographic, 2803.

of U in, fluorimetric, 1385. paper chromatographic, 2010.

of V in, spectrophotometric, 3185.

of Zn in, 3538.

identification and determination of organic acids in, chromatographic, 2012. rain, determination of 137Cs, 144Ce, 89Sr and 96Sr in,

2013.

Water, sea, detection of Cd in, spectrophotometric, 1388.

determination of NH, in, 280, 3920.

of Cu in, 3920.

of Ga in, spectrophotometric, 3921.

of Ge in, spectrophotometric, 3922.

of Au in, radiochemical, 35.

of isotopic Th in, 719.

of NO3 in, 3920. of Rb in, by isotopic dilution, 718.

of sugars in, 3920.

of Zn in, 3920.

separation of Cs from, by ion exchange, 716.

Wattle, determination of tannins in, u.v. spectro-

photometric, 1301. Waxes, determination of normal paraffin distribution in, gas - liquid chromatographic, 1764. measurement of phase transitions of, i.r. spectro-

photometric, 3419.

soil, analysis of, 288. Weighing, air-density corrections for reduction to vacuum, 3240.

method for small amounts of hygroscopic and volatile liquids, 3193.

Weisz ring-oven, use of, in colorimetry, mathematics of, 776.

Welding fluxes. (See Fluxes.)

Wetting agents. (See Surface-active agents.)

Wheat, identification, in ground cereals, 977.

Wheat flour. (See Flour.)

Whey, determination of Ca in, 2782.

of soluble protein in, spectrophotometric, 1988.

Whisky, determination of Ce in, spectrophotometric,

of obscuration value of, spectrophotometric, 3903.

of Zn in, spectrophotometric, 2790. Wine, detection of sorbic acid in, paper chromato-

graphic, 2794. determination of butane-1:3-diol and glycerol

in, photometric, 701. of free and total H2SO3 in, 2398.

of Fe in, spectrophotometric, 4316.

of lactic acid in, comparison of methods for, 702. of malic acid in, comparison of methods for, 703.

of must weight, alcohol and extract content of, by pycnometer method, simplified equations for, 4314.

Wine, determination-continued

of natural alcohol content of, 700. of sorbitol in, paper chromatographic, 989.

of tartaric acid in, comparison of methods for,

of titratable acidity of, potentiometric, review,

of total acids in, electrometric, 1368.

of volatile acids in, 1371.

differentiation of natural and sweetened, 4315.

Wofacain A, analysis of, 1972.

Wolframite, determination of W in, potentiometric,

Wood, detection and determination of As, Cr and F in, 2424.

determination of cellulose and pentosans in, 720. of dihydroxyquercetin in, photometric, 2423. of lignin in, 165.

Wool, determination of medulla in, 1930.

separation and determination of cysteic acid in, electrophoretic, 4258.

Wool fat. (See Wool wax.)

Wool wax, determination of cholesterol in, review, 4225

of 7-oxocholesterol in, spectrophotometric, 1980. of sterols in, spectrophotometric, 4226.

X

Xanthates, determination, in mineral pulps, polarographic, 885.

potentiometric, 135.

turbidimetric, 3032.

solubility products of, 1106.

Xanthine, detection, paper chromatographic, 4190. Xanthine derivatives, separation and determination, in plasma, paper chromatographic, 4235. in urine, 4236.

Xanthine oxidase, separation and identification of flavinadenine dinucleotide in, by countercurrent extraction, 943.

Xanthurenic acid, determination, in urine, fluorimetric, 3843.

X-ray diffraction analysis, applications, 2443. extrusion of cylindrical specimens for, 1049.

review, 1725. X-ray fluorescence spectrometry.

metry, fluorescence, X-ray.)
X-ray spectrography. (See Spectrography, emission, X-ray: Spectrometry, absorption, X-ray.)

Xylene, determination of p-xylene content of, cryoscopic, 1264.

isomers of, analysis of, i.r. spectrophotometric,

Xylenol orange, use of, as indicator, 2496.

Xylenols, determination of phenol coeff. of, in germicides, polarographic, 4301.

Xylose, D-, separation, paper chromatographic, 866. determination, in paper pulp, paper chromatographic, 3417.

in urine, photometric, 1609. identification and determination, spectrophoto-

metric, 3445. separation and determination, paper chromatographic, 3086.

Xylulose 5-phosphates, determination, 194.

Xylyl chloride, isomers of, analysis of, i.r. spectrophotometric, 1269.

Xylyl methyl ethers, separation, gas - liquid chromatographic, 4201.

Yeast, determination of citric acid in, 2240. of water in, 3548.

Yohimbine, determination, spectrophotometric, 1964.

separation from reserpine, paper chromatographic, 2367.

Ytterbium, determination, chemical - spectrographic,

Yttrium, determination, 3986.

chemical - spectrographic, 420. X-ray fluorescent spectrometric, 2145. oxalate of, thermal decomposition of, 1799. separation of carrier-free 90 Y, 1474.

Zinc, analysis of, spectrographic, 2544. co-pptn. of, with Al(OH)3, 3000.

with anthranilic acid, 2910.

determination, 393, 1166, 1463, 2133, 2511, 2547, 2882.

amperometric, 1443.

electrolytic, 4014.

in aluminium, spectrographic, 54.

in biological material, spectrophotometric, 2545.

in brass, 2546, 3638. amperometric, 2527.

thermovolumetric, 3637.

in bronze, 2546.

amperometric, 2527.

in calamine, polarographic, 48.

in electroplating soln., polarographic, 1464.

in fuel ash, 3006. in iron ore, by ion exchange, 3636.

in lubricating oil, 589.

spectrophotometric, 3407. in natural water, 3538.

in nickel, spectrophotometric, 2999.

in ointments, 695. in ores, sources of error in, 2909.

and concentrates, 3269.

in pigments, 1133.

in plant material, 282.

in presence of Ba, 1462.

of Co, polarographic, 394. of Cu, 374, 2116.

spectrophotometric, 4015.

of Fe³⁺, polarographic, 3622. of Fe²⁺, polarographic, 3639.

of Ni, polarographic, 394. of PO₄3-, 72.

in protamine zinc insulin, paper chromatographic, 1969.

in pyrites and marcasite, polarographic, 1160.

in rat liver, spectrographic, 182.

in rubber, 3420, 3814.

in rubber vulcanisates, 1304.

in sea water, 3920.

in soil, polarographic, 1717.

in whisky, spectrophotometric, 2790.

of Bi in, polarographic, 2098.

of Cd in, polarographic, 2098.

of Cu in, photometric, 1452, 3620.

polarographic, 2098.

of Pb in, polarographic, 1134, 2098. spectrographic, 3294.

of metallic, in zinc oxide, 46.

of Sn in, spectrophotometric, 432.

paper chromatographic, 780.

polarographic, 2134.

potentiometric, 1745. simultaneously with Cd, potentiometric, 4016.

spectrophotometric, 3259, 3280.

separation, by ion exchange, 2096.

from Al, by ion exchange, 395.

Zinc, separation-continued

from Co, 3279.

by ion exchange, 782.

paper chromatographic, 3002.

from Cu, by ion exchange, 782.

paper chromatographic, 3002. from Fe, by ion exchange, 782.

from molybdenum, nickel and tungsten alloys, by co-pptn., 2549.

from Ni, by ion exchange, 532.

paper chromatographic, 3002.

solubility products of xanthates of, 1106. Zinc alloys, determination of Al and Cu in, by ion

exchange, 1796.

of Al, Cu and Mg in, simultaneous, spectrographic, 47.

of Mg in, spectrophotometric, 1788.

Zinc ammonium sulphate hexahydrate, use of, as standard for EDTA titrations, 3968

Zinc concentrates, determination of In in, polarographic, 3654.

Zinc electrolytes. (See Electroplating solutions.)

Zinc ethylene-1: 2-bisdithiocarbamate. (See Zineb.) Zinc oxide, determination, in pharm. prep., amperometric, 1671.

in rubber products, spectrophotometric, 2723.

of Co in, photometric, 2649.

of excess of Zn in, 46.

Zinc stearate, determination of Zn in, 974.

Zinc sulphate electrolyte. (See Electroplating solutions.)

Zineb, residues, determination, 2821.

Zircaloy, determination of Cu in, spectrophotometric, 3262.

of Ni in, spectrophotometric, 4137.

Zirconium, detection, by ion exchange, 1163. determination, 66, 67, 68, 1484, 1810, 2583, 3302, 3671, 3672.

amperometric, 2947.

in Bi - U alloys, spectrographic, 3278.

in plutonium, by ion exchange and spectrography, 3299.

in presence of Hf, spectrophotometric, 2949.

in steel, spectrophotometric, 3749.

in titanium alloys, 4048.

in uranyl nitrate soln., spectrophotometric, 443. of Ba in, 1131, 2541.

of C in, 1800.

of dissolved O in, 4051.

of gases in, 1101

of Hf in, by neutron activation analysis, 4050.

of Ni in, spectrophotometric, 4137.

of Ta in, spectrophotometric, 2600.

of Sn in, 1486.

of trace elements in, spectrographic, 3673. photometric, 3298.

radiochemical, 1787.

spectrophotometric, 1809, 2584, 2948, 3303.

dissolution for analysis, 2950.

reactions with o-trifluoromethyl-o'-hydroxyazo compounds, 1790.

separation, electrochromatographic, 3987. from Hf, 4049.

use of solvent extraction in, 1104.

Zirconium alloys. (See also *Zircaloy*.) analysis of Zr - Ce, 1485.

determination of B in, 1145.

of C in, 1800.

of Hf in, by neutron activation analysis, 4050.

of Pt in, 1234. of Sn in, 1157, 1486.

polarographic, 2937.

Zirconium oxide, separation of Nb and Ta from, 4072. Zone melting, apparatus for, modifications to, 1069.

LIST OF PATENTS ABSTRACTED

BRITISH PATENTS

Patent No.	Abstr. No.						
771,531,	816.	784,146,	1024.	786,896,	2046.	791.228.	2350.
776,543,	332.	784,169,	1021.	787,533.	1601.	791,570,	2043.
776,770,	329.	784,218,	1074.	788,211,	1708.	792.001.	2833.
776,771,	330.	784,548,	937.	788,801,	2031.	792,986,	2831.
779,212,	315.	785,000,	1025.	789,123,	2033.	793,727,	2606.
779,309,	316.	785,563,	1066.	790,217,	2048.	796,661.	4372.
782,534,	741.	785,815,	1022.	790,419,	2011.		
783 748	1023	786 272	1020	790 998	2055		

United States Patents

Patent No.	Abstr. No.
2,773,020/1.	1080.
2,780,601,	3585.
2,784,064,	1847.
2,785,959,	1828.
2,797,983,	3331.
2,800,397,	3954.

ABBREVIATIONS

Certain abbreviations in everyday use are not included in the following list. When any doubt might arise from the use of an abbreviation or symbol the word is printed in full.

alternating current		a.c.	milli-equivalent	milli-equiv.
ampere			milligram	mg
		A	millilitre	ml
anhydrous .			millimetre	mm
approximate, -ly			millimicrogram	mμg
aqueous		aq.	millimolar	mM
			millivolt	mV
boiling-point .	*	b.p.		min.
British thermal unit		A1 THE		M
calorie (large)		kg-cal.		mol.
				N
calorie (small) .		g-cal.	normal (concentration) .	
centimetre .			optical rotation	αį
coefficient .			ounce	OZ
concentrated .			parts per million	p.p.m.
concentration .		concn.	per cent	%
constant		const.	per cent. (vol. in vol.)	% (v/v) % (w/v) % (w/w)
corrected		(corr.)	per cent. (wt. in vol.)	% (w/v)
crystalline .	*	cryst.	per cent. (wt. in wt.)	% (w/w)
crystallised .		Seryst	potential difference	p.d.
cubic		cu.	precipitate (as a noun) .	ppt.
current density .		c.d.	precipitated	pptd.
cycles per second		c/s	precipitating	pptg.
density		ρ	precipitation	pptn.
density, relative		d or wt. per ml	preparation	prep.
dilute		dil.	qualitative, -ly	qual.
direct current .		d.c.	quantitative, -ly	quant.
distilled		dist.	recrystallised	recryst.
ethylenediaminetetra	a-acetic		refractive index	ns
acid		EDTA	relative band speed	R_{\bullet}
electromotive force		e.m.f.	1 11 1 111	r.h
equivalent .		equiv.	relative humidity revolutions per minute .	
gram				
gram-molecule .			saponification value	
			saturated calomel electrode.	
half-wave potential		E hr.	second (time)	sec.
hour			soluble	sol.
hydrogen ion expone		. pH	solution	soln.
infra-red		i.r.	specific gravity	
insoluble		insol.	specific rotation	
international unit		. i.u.	square centimetre	
		. kg	standard temp. and pressure	s.t.p.
kilovolt		. kV	temperature	temp.
kilowatt		. kW	ultra-violet	u.v.
liquid		, liq.	vapour density	v.d.
maxim-um, -a .		. max.	vapour pressure	v.p.
melting-point .		. m.p.	volt	V
microgram .		. μg (not γ)	volume	vol.
		. µl	watt	
		. µmole	wavelength	λ
micron		. 4	weight	
milliampere .		. mA		

In addition, the following symbols may be used in conjunction with numerical values or in mathematical expressions—

greater than .		>	less than		<
not greater than		>	not less than		. *
is proportional to		oc.	of the order of.	approximate	elv ~

The principal Pharmacopoeias are denoted by B.P., U.S.P. or D.A.B., together with the identifying roman numeral or year.

Valency states are represented by a superscript roman numeral, e.g., Fe^{II}, Mo^V Substances in the ionic state are represented by Na⁺, Fe³⁺, Fe³⁺, etc., for cations and by Cl⁻, SO₄²⁻ PO₄³⁻, etc., for anions.

